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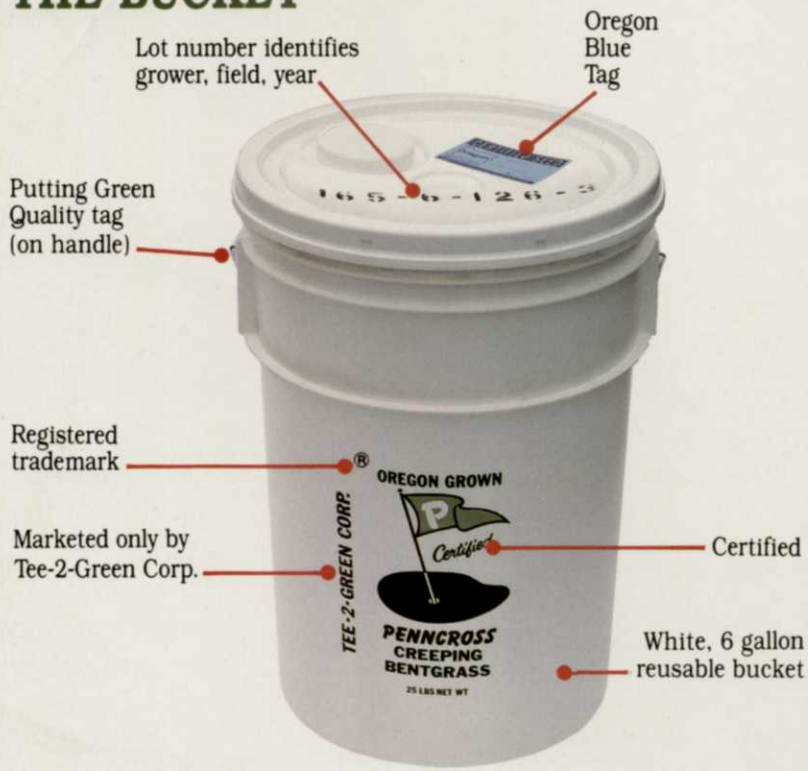

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VOL. CXXXVI
The Daily Sun
GREENSBORO, WEDNESDAY, NOVEMBER 1, 1987
EXTRA
NEW INSECTICIDE STOPS GR
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"Lawn care experts get 90% control in 3 days!"
by THOMAS BAGOT
Recent label approval by the Environmental Protection Agency marks the introduction of the ultimate product for grub control in home lawns.
New Triumph offers lawn care professionals many advantages in grub control.
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☐ Triumph's superior chemistry provides/delivers over 90 percent grub control quickly and maintains that performance over 10 weeks.
☐ New Triumph also controls surface insects and mole crickets and is labeled exclusively for use by lawn care professionals.
☐ And new Triumph's liquid formulation and low rates mean
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One application of Triumph per year in the fall is all you need to control grubs consistently and effectively. Years of testing shows that Triumph continues to control grubs for over two months. This should prevent retreatment until the following season.
Triumph goes to work faster than other products you've used. Within two days of application, you see Triumph control grubs and other insects. That means you stop grub damage quickly, reducing complaints and keeping your

INTR

THE BEST NEWS TO H

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by DAVID WOLFE
Over 10 years of testing has proven Triumph's superior control of grubs.
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Not only is Triumph's performance superior, it controls grubs faster than any other insecticide.
Triumph kills grubs in just

New Triumph®, from CIBA-GEIGY, provides, on average, over 90% grub control in just two to three days. And there are over 10 years of major university and CIBA-GEIGY trials to prove it.

Triumph offers broad spectrum control of surface feeders like chinch bugs, sod webworms, army worms, chionodes, plus sub-surface mole crickets and annual bluegrass weevils.

Application in late summer to fall can *prevent* turf insect damage by eliminating grubs when they're small, before they can damage roots. And if grub damage appears in spring and summer, application of Triumph quickly stops further damage.

When your customers call you with a grub problem, they want results fast. And that's what they get with Triumph. And, because Triumph is restricted to lawn care applicators, your customers can only get it from you.

CIBA–GEIGY

ODUCING TRIUMPH. HIT LAWNS IN YEARS.

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Selecting the wrong loader for the job means wasted time and labor. Selecting the right loader can assure your company more profitability. Here's how to go about the selection process.

30 BLUE-GREEN ALGAE AND BLACK LAYER
Researchers throughout the country have proposed theories on the causes of the black layer destroying sand greens. Last month, LANDSCAPE MANAGEMENT looked at some of these theories. This month, we examine preliminary research conducted at Iowa State University.

34 SELECTING SOFTWARE
Few landscape and lawn care businesses can run effectively these days without computers. Last month, LANDSCAPE MANAGEMENT told business owners what to look-for in computer hardware and software. This month, we review some of the software programs available to the green industry.

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Circle No. 121 on Reader Inquiry Card

by the Editorial Staff

Slight rebound for commercial turf care

■ After a dismal 1986, members of the Outdoor Power Equipment Institute are forecasting "a slight rebound" in 1987 for commercial turf care. The report shows a slow, steady growth in sales of walk-behind rotary mowers, riding rotary turf mowers and riding reel mowers. Landscape and lawn care is viewed as the fastest-growing segment of the market.

Sales of walk-behinds are forecast to be up to 80,800 units from 1986's 72,500. Riding rotaries should be at the 16,100-unit level after a 15,000 1986. And riding reels appear to be headed to the 4,200-unit mark.

The OPEI's extended forecast has walk-behinds at the 95,000 level, riding rotaries at 20,100 and riding reels at 5,400 by 1991.

'Variety Not Stated' means beware

■ The battle against the sale of generic seed continues. International Seeds of Halsey, Ore., has produced a flier entitled " 'Variety Not Stated' Is Another Way of Saying 'Buyer Beware.' " The flier points out that, no matter what a seller tells you is in the bag, you don't know what you'll get. By purchasing a bag of seed labeled "Variety Not Stated," the buyer gives the seller the right to put any kind of seed in the bag—forage grass, whatever. And in most states it's legal. What can be done by the buyer for protection? Simple: buy properly labeled seed—the real thing.

Researcher produces test tube walnut tree

■ "Plantlets" of genetically superior walnut trees have been created in the test tubes of Susan Stefan at the University of Missouri in Columbia, Mo.The plantlets resemble seedlings but are rootless and a fraction of the size of normal seedlings.

Stefan grafts shoots from the plantlets onto walnut rootstocks, which are small seedlings that have had their tops removed. According to Stefan, it takes 10 days for the graft to become secure, and another week for the grafted shoot to grow to 25 times its size, or the normal seedling size, ready for planting.

Plantlets are created by taking tissue from the disease-free meristem tip region of a branch from the largest healthiest trees, then placing the tissue in an artificial growth medium containing nutrients and hormones. The result is a clone of a large, healthy walnut tree.

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CONFERENCES

November: top month for conference-goers

ALCA/PGMS **PLCAA** **OPEI**

The GREEN TEAM In Washington

A Commitment to Success

The Associated Landscape Contractors of America (ALCA) and the Professional Grounds Management Society (PGMS) will hold their second annual joint conference Nov. 8-11.

This year, the "Green Team" conference is at the Hyatt Regency Crystal City in Arlington, Va. Labeled "A Committment to Success," it features a full array of speakers, seminars, workshops, trade show, awards program and optional tours.

Jeffrey O'Connell, co-author of the principal work which proposed no-fault auto insurance and a professor of law at the University of Virginia, wll be the keynote speaker.

There will be a welcoming reception on Nov. 7, and a supervisor's session on leadership skills will be held on Nov. 8.

The official opening session will begin at 8 a.m. Monday, Nov. 9. Annual awards will be presented at a luncheon that day. Later Monday, the PGMS will hold a business meeting while ALCA attendees will be able to participate in the highly popular "buzz sessions."

Topics of other presentations include snow removal, safety, trees and shrubs, pesticides and liability.

For more information, call either the ALCA or the PGMS at (respectively) (703) 241-4004 or (301) 667-1833.

All signs indicate that this year's Professional Lawn Care Association of America (PLCAA) Conference and Trade Show will break all records.

"Certainly, we still have a bit of selling to do," said PLCAA executive vice-president Jim Brooks earlier this year, "but I'm excited about the quality of the exhibitors, the size of the booths they wish to use and the newcomers to the show.

"Baltimore is certainly going to be tough to beat, but I know we'll do it."

The show will be held Nov. 12-15 in San Antonio, Tex.

The popular "Early Bird" reception will be held Nov. 12 at 8 p.m., following the trade show's 1:30 p.m.

San Antonio PLCAA/87 NOVEMBER 12-15, 1987

opening. Keynote speaker Roger Staubach, a member of the Pro Football Hall of Fame, speaks at 8:30 a.m. Nov. 13.

Educational sessions, for the first time ever, are organized with three different tracks: business, agronomics and landscape. This advanced educational format allows attendees to target specific interests and make the most of their time.

Small engine clinics will be held each day, and the third annual Outdoor Equipment Demonstration is scheduled for 9 a.m. to noon Sunday, Nov. 15.

For more information, call the PLCAA at (800) 458-3466.

The first Professional Landscape Contracting, Turf and Grounds Maintenance Expo (Pro Show 87) is being held Nov. 18-20 at the Dallas (Tex.) Convention Center.

The seminar program opens Tuesday, Nov. 17, with a full-day session on "Computer Applications in Landscaping." Here are highlights of the other 35 seminars:

- workshops on preventive maintenance of small engines
- "Sports Turf and Athletic Field Problems"
- "Proper Irrigation Design" and "Irrigation Equipment Selection"
- "Power Equipment Selection and Use," sponsored by the Outdoor Power Equipment Institute, which sponsors Pro Show 87.

Admission fees for the seminars range from $25 to $100, depending on length. Twelve are free.

Entrance to the trade show floor is also free. Exhibit hours will be 9 a.m. to 5 p.m. on Nov. 18 and 19; 9 a.m. to 3 p.m. on Nov. 20.

Entertainer Mac Davis will perform Thursday, Nov. 19 at the Dallas Convention Center solely for Pro Show participants and their guests. Tickets are $25 each.

For more information, call (800) 654-0349. From Kentucky or outside the continental U.S., phone (502) 582-1672.

Pro Show 87

Horicon plant workers assemble a lawn tractor.

INDUSTRY

Deere moving from the farm; finding home in the suburbs

John Deere & Co. is investing more and more in the consumer and commerical product market as the agricultural equipment market remains weak.

The investment includes the completion of a $24 million paint facility at Deere's Horicon works in Horicon, Wis. The system applies the company's traditional green and yellow colors to equipment more efficiently and effectively.

The company showed off the new system, as well as 30 new

continued on page 12

SHORT CUTS

ASSOCIATIONS

Wilkinson is named director of PPPF

Jim Wilkinson, president of the Professional Lawn Care Association of America, is the new executive director of the Pesticide Public Policy Foundation.

"He possesses the unique capabilities that make him eminently qualified," says Eric Haupt, PPPF board chairman. Wilkinson owns a Ph.D. in agronomy; he headed a lawn care company; he worked with regulatory agencies for the PLCAA.

Wilkinson

"The opportunity to work for PPPF interested me," Wilkinson says. "I like the regulatory, environmental issues arena."

Wilkinson will work for 3PF as a consultant on a contract basis in Providence, R.I. He says he will probably seek other clients.

First order of business will be to solicit funds for PPPF, the new executive director says. The PLCAA and the National Arborists Association have been the primary supporters. Wilkinson says he will seek to better involve the golf course, nursery and structural pest control industries.

Wilkinson was general manager of Old Fox Lawn Care, Providence, for the last seven years. Replacing him is John Kenenski, who was formerly operations manager.

Wilkinson succeeds Dave Dietz of Salem, Ore., who had been personally involved with the PPPF since its inception. Dietz is recovering from a serious automobile accident that put him into a coma earlier this year. He is currently at a rehabilitation center undergoing physical therapy.

A mail poll of PPPF members was unanimously in favor of discontinuing the association's contract with Dietz. In a letter to Dietz dated Aug. 13th, PPPF board chairman Erik Haupt of Bartlett Tree, Osterville, Mass., wrote:

"It goes without saying that we were grievously saddened when we learned of the accident. On behalf of the Board, I extend my hand in thanks and appreciation for all you have done for the pesticide user groups. With kindest regards and wishes for a speedy recovery..."

WATER WOES?... Algae in your standing water? Weeds infesting your ponds? The answer to your troubles might be a combination of things, according to Charlie Barebo of Barebo, Inc., Emmaus, Pa. "Water is one of the least understood commodities we deal with," Barebo says. "One tool alone (for control of aquatic weeds and algae) is not enough. A balanced approach is the best solution." Proven means of weed and algae control are by fertilization, by drawdown, with biological controls, with chemical controls and with mechanical devices. Harvesters fall into the last category, as do aquatic aerifiers like the ones manufactured by Barebo.

AND YOU THINK YOU'VE GOT PROBLEMS?... Oak Pointe Golf Club near Brighton, Mich. lost 60 prime golf days to vandalism last summer, and it's a tribute to the course's crew and the assistance from Vidosh Brothers Landscaping that it wasn't longer. Eight greens and one tee on the three courses were killed out overnight when vandals spread a toxic chemical (not related to golf) on those parts of the courses. Flushing was first tried unsuccessfully. Eventually, three inches of soil had to be replaced and 6,000 yards of prime bentgrass sod was installed. More about this mammoth task will appear in a future issue of LANDSCAPE MANAGEMENT.

IF YOU NEED MILORGANITE... In 61 years, the Milwaukee Metropolitan Sewerage District has sold more than 3.7 million *tons* of Milorganite fertilizer. Demand continues at a fast pace, so the MMSD is expanding its plant to boost production by 25 percent to 75,000 tons a year. The company is also planning over-the-counter sales to the consumer market.

POTASH PRICE HIKES...A duty on potash imports could make some fertilizer blends slightly more expensive, suppliers say. The U.S. Commerce Department recently announced steps to prevent Canadian dumping of potash in response to suits filed by U.S. potash producers. As a result, potash prices have jumped 35 to 40 percent for wholesale buyers. Paul Mengle of Lebanon Chemical says the impact on the turf industry will be long-range. His company has planned no price increase for fertilizer blends containing potash this coming fall. Mengle estimates the eventual increase for blends at two or three percent. Peter Machin of The Andersons says his company plans no price increases either. Eventually, he sees a possible increase of one to three percent. The impact is expected to be much greater in the agriculture industry.

THE PRINCE VISITS... Kansas State University, home of the first graduate and undergraduate horticultural therapy programs, greeted the crown prince and crown princess of Japan last month. The horticultural therapy program, under Richard Mattson of the horticulture department, prepares students to work with the mentally and physically disabled, the aged and with persons in correctional facilities. It was begun in 1971.

BREEDING SUCCESS... Kevin McVeigh, Ph.D., and his wife Rose formed Willamette Valley Plant Breeders of Brownsville, Ore. earlier this year. Purpose of the new company is to test, evaluate and develop varieties of turfgrass that have been released to Cascade International Seed by the Rutgers University Agricultural Experiment Station. McVeigh received his doctorate in plant breeding from Rutgers. Cascade is a subsidiary of Jonathan Green, which markets turfseed.

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DEERE *from page 8*

products, at an open house at the Horicon works Sept. 17-18. The company has introduced more than 100 new products in the consumer division in the last five years.

Deere was once known strictly as a tractor manufacturer. Mark C. Rostvold, vice president of consumer products recalls, "I was at a golf course in Los Angeles recently. A young man at the course heard I was from Deere and came up to me and said, 'John Deere—you're the lawn mower people.' Such has been the growth in that division."

Rostvold notes that outdoor power equipment industry sales double about every five years. Which is why Deere has been heading in that direction. According to Raymond E. Gregg, general manager of the Horicon Works, last year consumer products accounted for $700 million of the company's $3.5 billion in sales. Horicon operations accounted for two-thirds of that $700 million.

The Horicon operation has put into practice a number of measures to keep manufacturing costs down. They include computer-aided design and manufacturing of equipment; timely delivery of parts to reduce inventory; and a computer-controlled, timed automatic guided vehicle system which basically carries each vehicle to the next assembly station for further construction, instead of a traditional assembly line operation.

To keep up with the company's expansion in consumer markets, in 1987 Deere has or is adding about 1,000 more dealers to its network of 3,000 dealers in North America.

PEOPLE

A.A.N.'s Lederer passes away at 59

Robert F. Lederer, executive vice-president of the American Association of Nurserymen, died Sept. 26 in Fairfax, Va. following heart surgery. He was 59.

Lederer

Lederer joined the A.A.N. staff in February, 1959, serving as an administrative assistant. In 1965, he was named executive vice-president. He had planned to retire in August, 1988.

A close ally of Lady Bird Johnson during the First Lady's National Beautification Program in the 1960s, Lederer more recently served as vice-president of the board of the National Wildflower Research Center, which Mrs. Johnson founded.

Lederer's most recent professional activities were chairman of the Washington Youth Gardens Council and chair of the National Council for Therapy and Rehabilitation Through Horticulture steering committee.

REGISTRATIONS

Elanco names EL-107 Gallery and Snapshot

"Gallery" will be the trade name for the 75 percent dry flowable formulation of a new product from Elanco. The pre-emergence broadleaf herbicide was known during testing as EL-107. The compound's active ingredient, isoxaben, represents a new chemistry, says the company. "We feel quite confident with this formulation," notes Benny Eaton, Ph.D., project manager for Gallery.

Elanco expects EPA approval for Gallery 75DF and technical isoxaben by next fall. Approval for the second main product, "Snapshot," with

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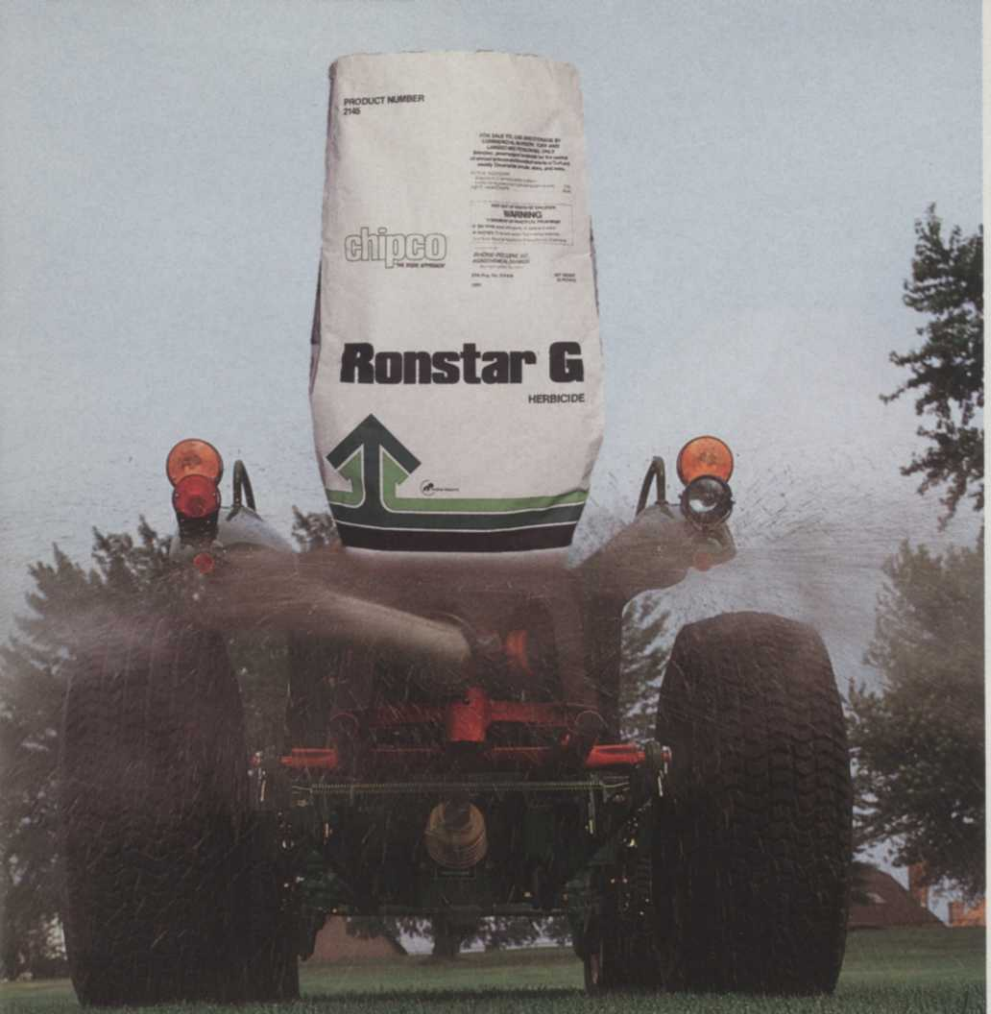

WE PACK A FULL SEASON OF WORRY-FREE WEED CONTROL INTO EVERY BAG.

Only CHIPCO® RONSTAR® herbicide gives you safe, season-long control of crabgrass, goosegrass and tough broadleaf weeds.

Like most turf professionals, you want a herbicide that works the first time, every time. One that controls crabgrass, goosegrass and tough broadleaf weeds all season long...without damaging your turf.

But there's only one place you'll find that kind of control. Inside every bag of CHIPCO RONSTAR herbicide.

A single application of CHIPCO RONSTAR herbicide delivers the longest-lasting, most dependable pre-emergence control of crabgrass and goosegrass you can buy. In addition, CHIPCO RONSTAR herbicide keeps oxalis, carpetweed and many other broadleaves out of sight and out of mind.

Unlike most turf herbicides, CHIPCO RONSTAR herbicide controls weeds without harming turfgrasses. In fact, tests prove that CHIPCO RONSTAR herbicide will not cause the root pruning problems associated with other products.

CHIPCO RONSTAR herbicide can also be used near trees, ornamentals and ground covers without fear of damaging sensitive varieties. And, CHIPCO RONSTAR herbicide won't leach or move laterally like some other herbicides.

When it's time to plan your weed control program, remember the herbicide that has everything you need in one bag. CHIPCO RONSTAR G herbicide or new CHIPCO RONSTAR WP herbicide.

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HERBICIDE

RHÔNE-POULENC AG COMPANY

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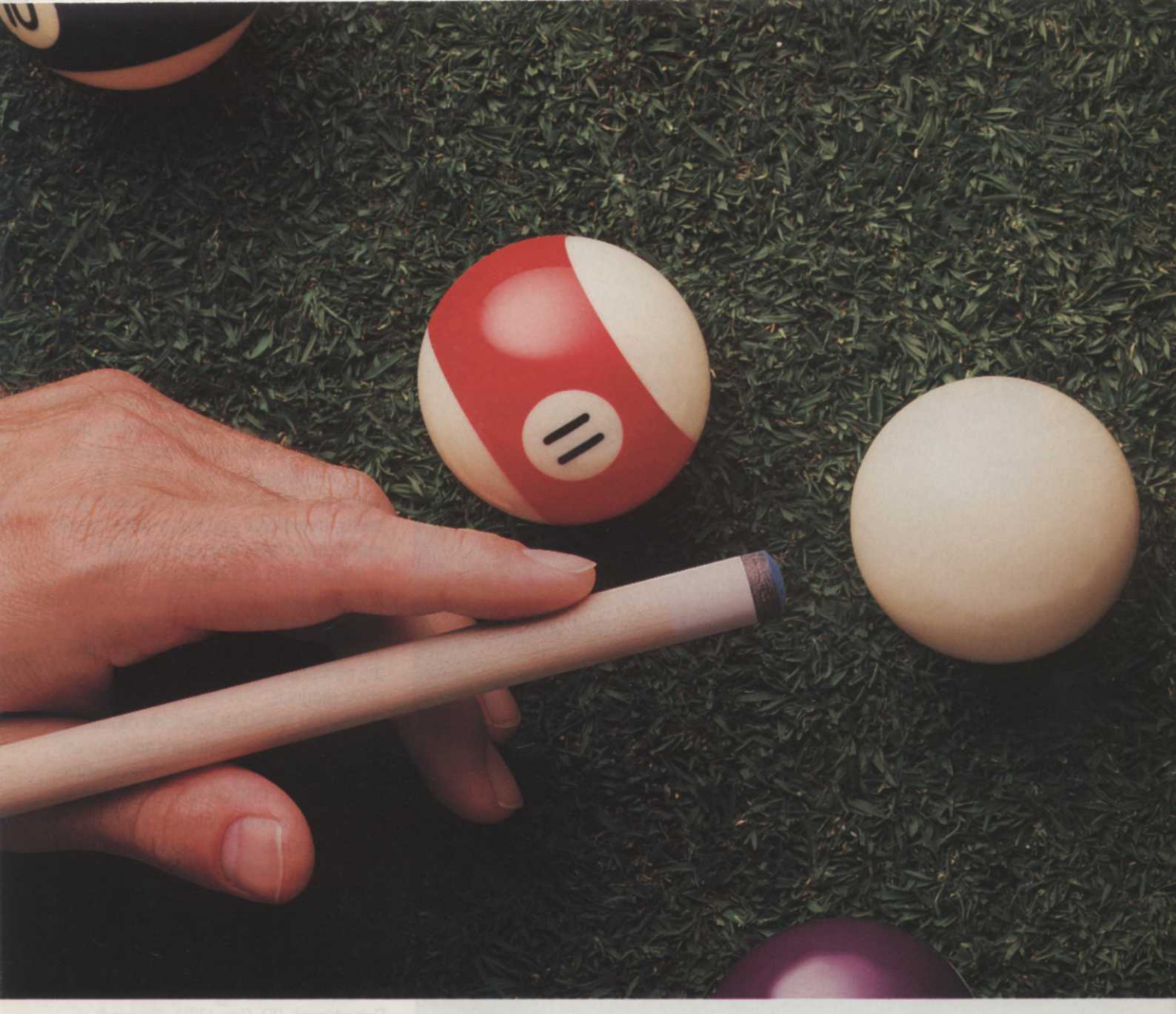


The Greensmaster® 3000 Ca

In your game, the best way to score points is with greens in tournament-standard condition. That's why, where you see the best greens, you'll see a riding Greensmaster from Toro.

No matter what your height-of-cut requirements are, the Greensmaster 3000 gives you cutting versatility from as low as 3/32" up to 11/16". Just what you need to cut your greens to tournament standards and deliver a precision cut to aprons and tees as well. And that's a measurable difference over the competition.

Choice of Cutting Units and TORO's Variable Speed Kit.

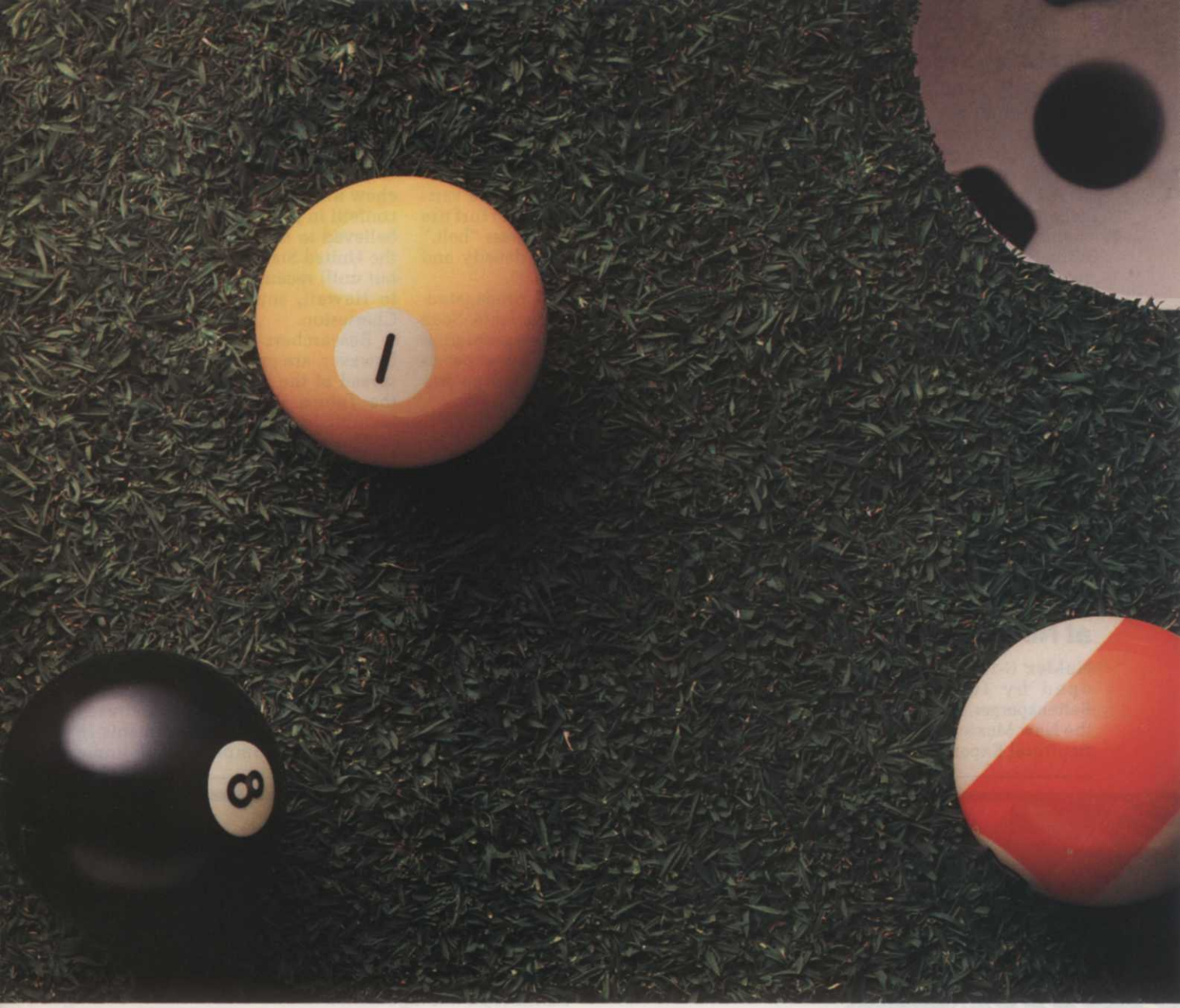
What makes the precision cutting of the Greensmaster 3000 possible? The correct choice of cutting blades for your desired height-of-cut. Our 5, 8 and 11 blade cutting units give you the capacity to cover the entire height-of-cut range for the truest ball roll of all. This precision cutting is achievable in combination with Toro's exclusive Variable Speed Kit. It allows you to select a consistent ground speed while maintaining a constant, even clip.

Another exclusive feature for varying cutting conditions.

The Greensmaster 3000 also features an exclusive cutting unit attitude leveling adjustment through its rear roller. This lets you set the correct attack angle of the bedknife for varying cutting conditions or cutting heights.

Additional cutting versatility at the flip of a handle.

With Toro's Height-of-Cut



n Improve Anyone's Game.

Kit you can easily change your height-of-cut to 5 different levels. Each flip of the handle alters the height-of-cut by .100 inch within a total range of 1/2" above the cutting unit "bench setting."

Hinged lift arm for unrestricted flotation.

This standard feature is anything but standard. It ensures a consistent cut around uneven terrain such as edges of greens, tees, aprons and fairways.

For further versatility and productivity, Toro provides a full range of bedknives, rollers, combs and brushes. Plus options that include backlapping, direct suspension, thatchers and spikers. Put them all together and you can see why more Golf Course Superintendents from around the world depend on the riding Greensmaster from Toro than any other riding greensmower. And why you should, too.

More information available from your Toro Distributor.

Contact your local Toro distributor for additional information or a demonstration. Or write The Toro Company, Commercial Marketing Dept./ GR3, 8111 Lyndale Ave. So., Minneapolis, Minnesota 55420.

TORO®

The professionals that keep you cutting.

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ELANCO *from page 12*

formulations of 80DF (20 percent isoxaben and 60 percent oryzalin) and granular (isoxaben plus trifluralin in a ratio of 1:5) is expected in the first part of 1989.

All formulations have shown excellent results in over-the-top treatments of woody ornamentals in warm climates. In particular, application rates of 1 lb. active ingredient isoxaden plus 3 lbs. of Surflan (oryzalin) have shown excellent results.

EL-107 has broad spectrum control over 45 broadleaf weeds. It exhibits suppression of some grassy weeds, though it's not recommended for this task. The product works on germinating weed seed which normally occur in the top two centimeters of the soil.

Elanco had previously named EL-107 "Encore," but ran into trademark problems.

RESEARCH

New bermudagrass at New Mexico State

NuMex S-1, a bermudagrass developed by turf breeder Arden Baltensperger, has been released from the New Mexico State University Agricultural Experiment Station.

The variety has shown good spring and summer color. Performance tests indicate better growth and appearance than common varieties used in the Southwest.

Baltensperger notes that the variety can be applied for general turf use throughout the bermudagrass "belt." It has medium texture, density and plant height.

The variety is seed propagated. Some breeder seed is available. Seed increase will be on a three-generation basis and grown under the supervision of the New Mexico Crop Improvement Association.

INSECTS

Termites, roaches enter 'green' picture

Formosan termites and Asian cockroaches, two relatively new but troublesome household pests, are riding the green industry to new homes.

Mike Chambers, a researcher at Clemson University, says that Formosan termites traveled the 12 miles from Charleston, S.C. to the posh Isle of Pines on used railroad ties incorporated into a landscape there. Used railroad ties brought up from the Gulf Coast are being blamed for an infestation in Auburn, Ala., as well.

The Formosan, which has the ability to make nests in walls and ceilings of structures as well in the soil, can chew untreated wood structures into confetti in just a few short years. It is believed to have been introduced to the United States about 40 years ago, but until recently had been confined to Hawaii, southeast Florida and Charleston.

Researchers in Gainesville, Fla., however, are predicting a more rapid spread of the Asian cockroach from the Tampa area where it was first identified in June, 1986.

This species of cockroach is almost identical to the common household German roach except it can fly and lives outdoors as well as indoors. And that's where the green industry comes in.

Dr. Richard Brenner, a researcher at the Insects Affecting Man and Animals Laboratory in Gainesville, says Asian cockroaches have been found in sod grown in the Tampa area and transported elsewhere in the Southeast.

Florida exterminators are already offering outdoor lawn treatments in response to complaints of home

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If you are looking for a career opportunity rather than just another job, consider linking your future to ours. We are looking for experienced people in the following areas:

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Landscape Maintenance Services
A subsidiary of environmental industries, inc.
Personnel Department
24121 Ventura Boulevard
Calabasas, CA 91302

INSECTS *from page 16*

owners who are being driven from their backyard barbeques by these Asian cockroaches, which have the annoying habit of taking flight just about sundown.

RESEARCH

Thick lawns appear to limit runoff speed

Thick lawns may well limit pesticide runoff, according to research being conducted by Dr. Tom Watschke at Penn State University.

"Thick lawns slow the velocity of runoff and allow the water to infiltrate," he notes. Infiltration into the ground is more desirable than runoff because microbes in the soil help break down the chemicals into harmless materials, he also says.

In one of Watschke's experiments, a sodded plot without soil patches showing through registered a rate of ½-gallon per minute runoff. On the other hand, another plot that was thinly seeded with a lot of bare spots registered a rate of 7½-gallons per minute runoff.

"The next step will be to add commercially available registered pesticides and nutrients to study their effects," Watschke claims.

BIOTECHNOLOGY

Pathologist 'in dutch' over a possible cure for Dutch elm

A researcher at Montana State University ignored federal regulations by injecting 14 elm trees with a genetically-altered bacteria.

Calling the regulations "ludicrous," plant pathologist Gary Strobel, Ph.D., injected the bacteria as part of an experiment to find a preventive treatment for Dutch elm disease.

He filed for EPA approval to conduct the experiment, but did not wait for an answer because it would have meant delaying his experiment a year.

Reaction to Strobel's action has been mixed within the industry. Harvard professor emeritus Bernard D. Davis, a bacterial physiologist, told the *New York Times* that many researchers will "secretly cheer" the action though the ramifications on the industry could be severe. While Davis was confident that Strobel's experiment was safe, he said "the law is the law."

EPA has yet to take any action against Strobel, but is evaluating the situation. Punishments could range from a warning letter to civil fines or even a prison sentence.

Biotechnology critic Jeremy Rifkin announced that he would file petitions with three federal agencies seeking action against "this wanton, deliberate, intentional violation" of guidelines regarding genetic experimentation.

Strobel, commenting to a Montana State University committee investigating the situation, considered the use of genetically altered bacteria "minor." Following the meeting he said, "We can sit and talk about Dutch elm disease or we can do something about it. I chose to do something about it."

The bacterium, of the species *Pseudonomas syringae*, produces an antibiotic that kills the fungus that causes Dutch elm disease. The bacterium is naturally occurring.

GOLF COURSES

Grass carp banned in 28 U.S. states

Grass carp, popular in the landscape market because they eat aquatic weeds, are illegal in 28 states, as of

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INTRODUCING OUR HEAVY-DUTY AND MID-DUTY COMMERCIAL MOWERS

HEAVY-DUTY. Heavy Duty commercial mowers feature 32," 36" and 48" cutting decks, with engines available on various models from 8, 12, 12.5 HP to 14 HP. Four forward speeds and six cutting heights allow you to adjust to varying conditions. The 4 gallon fuel tank is a real time saver. Pneumatic tires are also standard. Options include a riding sulky and a 3 bushel catcher.

MID-DUTY. Mid-Duty commercial mowers use the 30" or 41" mowing decks and feature light touch steering. An I/C 8 or 12 HP engine is standard on the 30," with a 12 HP engine only on the 41." All models feature single lever cutting height adjustments, 5 forward speeds for ease of mowing and transporting, handles that adjust to 3 height positions, and no-tools blade belt adjustment.

41" Mid-Duty

48" Heavy-Duty

Snapper also offers 21" walk mowers, riders, tractors, trimmers, pluggers, power rakes and snowthrowers especially designed for commercial use.

Snapper Power Equipment, McDonough, GA 30253

Manufacturers of quality Lawn and Turf Equipment. A division of Fuqua Industries.

Circle No. 135 on Reader Inquiry Card

ficials at Madison (Wisc.) Maple Bluff Country Club found out recently.

According to a United Press International report, the course was fined $88 for releasing 150 to 200 of the carp, also known as white amur, in its two ponds. Officials were also planning to kill the fish.

According to the report, the grass carp strip ponds of all vegetation and—more importantly—destroy plant species needed by other fish. Wisconsin law prohibits private introduction of any kind of fish in state waters without a permit.

Grass carp are also banned in Michigan, Indiana, North Dakota and 23 other states.

LAWN CARE

Why lawn care for expansion?

The nation's two biggest lawn care companies, ChemLawn and Tru-Green, were recently sold to Ecolab and Waste Management, respectively (see story, page 40). Why did these new companies venture into the volatile and controversial lawn care industry?

"We thought we could take advantage of our strength in the routing of trucks," says Bill Plunkett, spokesperson for Waste Management. "We wanted to use our expertise, and the lawn care industry was one of the industries that appealed to us.

"Some of the (controversial) issues did not dissuade us. Waste hauling is one of the most intensely-regulated industries in the country, so we've had experience handling problems relating to public concerns."

The case was much the same for Ecolab.

"We are the leading supplier of premium services to the lodging and food service industries," notes Mike Monahan of Ecolab. "We wanted to enter the residential services market. We felt that ChemLawn had an excellent service force, and a name that we could use in expanding to residential services.

"We took a careful look at the pesticide issues. We were well aware of the concerns of the environmentalists. We view ChemLawn as taking a leadership position in safe application and products, and as trying to communicate that to the public."

Monahan points out that Ecolab has experience dealing with toxic chemicals. Detergents used to "wear-wash" dishes in restaurants and hotels contain phosphates. **LM**

Equipment for the turf care professional. **Olathe**

Leaf and Debris Blowers

Turn one man into a maintenance crew with any of the Olathe blowers — from 8hp up to the giant PTO tractor mounts, including blower attachments for Toro tractors. Olathe offers one of the most complete lines of commercial blowers.

For a free demo, write or call your local Olathe/Toro commercial dealer, or call toll-free 1-800-255-6438.

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STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

Statement required by the Act of October 23, 1962, Section 3685, Title 39, United States Code, showing the ownership, management and circulation of LANDSCAPE MANAGEMENT, Publication NO. 08941254, published monthly at 1 East First Street, Duluth, St. Louis County, Minnesota 55802-2067 as filed September 16, 1987. There are 12 issues annually; the annual subscription cost is $25.00.

The Address of the headquarters of the general business offices of the publisher is: 7500 Old Oak Boulevard, Cleveland Ohio 44130.

The name and address of the Publisher is: Dick Gore, 455 East Paces, Ferry Road, Suite 324, Atlanta, Georgia 30305. The name and address of the Editor is: Gerald Roche, 7500 Old Oak Boulevard, Cleveland, Ohio 44130. The name and address of the Managing Editor is: Heide Aungst, 7500 Old Oak Boulevard, Cleveland, Ohio 44130.

Owner: Harcourt Brace Jovanovich, Inc., Orlando, Florida 32887.

Names and addresses of individuals who are stockholders of the corporation which itself is a stockholder of the publishing corporation above when the interests of such individuals are equivalent to 1 percent or more of the total amount of the stock of the publishing corporation are: Cede & Co., c/o The Depository Trust Co., P.O. Box 20, Bowling Green Station, New York, NY 10274; Harcourt Brace Jovanovich, Inc. Employee Stock Ownership Plan, c/o Harcourt Brace Jovanovich, Inc., Orlando, FL 32887; First Boston, Inc., Park Avenue Plaza, New York, NY 10055; Walter J. Johnson, 19 Hewitt Avenue, Bronxville, NY 10708; Walter J. Johnson & Chemical Bank Ex u/w Thekla E. Johnson, 30 East 62nd Street, New York, NY 10021; Joseph C. Sindelar, 794 Park Blvd, Glen Ellyn, IL 60137; Kray & Co., One Financial Place, 440 South LaSalle Street, Chicago, IL 60605.

The known bondholders, mortgagees and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities are: None.

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I certify that the statements made by me above are correct and complete.

(signed) Joe Bilderbach
Vice President/Circulation

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Insect and mite protection from tee to green.

MAVRIK AQUAFLOW® Insecticide is a broad spectrum insecticide and miticide—in fact, it eliminates practically every problem except divots.

MAVRIK goes after pests that live in turf, in shrubs, in trees. It kills chinch bugs, sod webworms, mites, cutworms, leaf feeding caterpillars, aphids, whiteflies, leaf beetles and others.

There has never been a single product that handles so many pests, while being so safe to plants, convenient to use and easy to apply. MAVRIK is a non-restricted material, and it has been tested on more than a hundred ornamental species without a report of any phytotoxicity.

MAVRIK is a water-based flowable, so it's easy to mix. There is little residue and no odor—you can use it Friday afternoon and the members won't get their noses out of joint over the weekend. After a spray has dried, it's easy on bees. And it won't harm bird species.

You won't find the convenience and broad spectrum coverage of MAVRIK in any other product. And since MAVRIK is available at your local distributor, all you have to do is ask for it.

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Use pesticides effectively. Read and follow label directions carefully.

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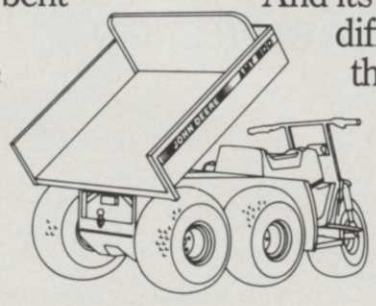
LANDSCAPING WITH

The new John Deere AMT™ 600 All Materials Transport treads so lightly, it'll barely bend your bent grass.

That's because even with a 600-pound* payload and a 200-pound operator on board, the AMT transport only puts down an average of 17 psi of ground pressure.

And its automotive-type differential allows the inside wheels to turn slower than the outside wheels. So the 600 won't tear up your turf turning either.



The 48¼ x 43-in. box manually raises to a 45 degree angle.

But for all the features that won't leave a bad impression on your turf, there are even more that'll leave a good impression on you.

Like the way the AMT

OUT LANDSCUFFING

transport's powerful drive system provides a 62-to-1 torque ratio for tremendous pulling power.

Or the way its box holds 12.5 cubic feet of material—and dumps too.

So if you're looking for a utility machine that won't sink into your landscape or your budget, see your John Deere dealer. Or write John Deere, Dept. 84, Moline, IL 61265.

Nothing Runs Like a Deere®

JOHN DEERE

AMT 600 vehicle transports easily in a standard size pickup.

**On level ground*
***Manufacturer's suggested list price not including sales tax. Price may vary with dealer.*

SAFETY live with it

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COVER STORY

LOADING: FOR LOADS OF PROFITABILITY

Selecting the wrong loader for the job means wasted time and labor. Selecting the right loader can assure your company more profitability. Here's how to go about the selection process.

Selecting the appropriate equipment is a vital decision for a landscape manager that can mean the difference between profit and loss. Several variables affect the purchasing decision, including:

- in what application or applications the equipment will be used;
- how frequently the equipment will be used; and
- the conditions under which the equipment will be used.

"Matching equipment to applications is key to helping ensure that a landscaping operation runs smoothly and profitably," says Marty Koval, product supervisor at JI Case.

"A landscape manager may be able to operate efficiently with one piece of equipment and a variety of attachments. Or, it may be more sensible to purchase two or more pieces of equipment with multiple functions and keep a busy operation running smoothly. For guidance in evaluating equipment needs, a knowledgeable dealer is an excellent resource."

Tractors

A general purpose tractor can easily handle many landscaping projects for municipalities, parks, golf courses and recreational areas. With the right attachments, these small, compact machines provide the maneuverability and versatility for mowing, grading around buildings, site preparation and general clean-up.

For example, the Case Model 380B general purpose tractor comes equipped with a three-point hitch and PTO to easily accommodate a wide range of attachments. The three-point hitch provides the operator with a lift and lower function and a draft and float control to pull a variety of mowers, box scrapers, backfill, leveling and grading blades and rakes. A PTO enables the tractor to drive augers, rototillers and mowers.

Optional auxiliary hydraulics let an operator use up to two functions with attachments, such as pitch, tilt and raise and lower functions.

A low center of gravity (LCG) version of this tractor is specially designed with improved stability that may be needed for contoured golf courses, parks and roadside mowing.

The LCG tractor's wider stance, lower profile and high flotation tires provide better control on slopes, significantly reducing overhead clearance concerns and virtually eliminating the potential of any lawn damage.

Nurseries and contractors also often need tractors that can accommodate loaders and forks to move and load trees, shrubbery, stones or pallets of material such as sod.

Many general purpose tractors are available in industrial versions that use a stronger frame and axle to handle these heavier loads. They can also have a transmission with more travel speeds and shuttle capabilities between forward and reverse that provide faster cycle times.

"In different configurations and with a variety of attachments, general purpose tractors can function in a multitude of applications for landscape managers and contractors who aren't working the individual ma-

Still time to save.

James I. FitzGibbon
Chairman and Chief Executive Officer
LESCO, Inc.

LESCO equipment is on sale now. The 500 Fairway Mower. The 300 Greensmower. The gang mower. The hydraulic lift. The aerator. The spreaders and the sprayers.

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The chart highlights the discounts by month. Determine your savings by combining discounts for the month you order and the month you pay.

Month	Early Order Discount	Early Payment Discount	Sebring Pickup Allowance
October	8%	5%	5%
November	6%	4%	5%
December	4%	3%	5%
January	2%	2%	5%
February	1%	1%	5%

The LESCO Equipment Early-Order Program ends February 29, 1988.

There's still time to save. Order now.
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Loaders like this one can be easily removed from tractors in less than one minute. This quick-change features makes the tractor more versatile and time-efficient.

Many times, backhoes are used not only for excavating, but also for loading the displaced dirt into trucks for transport elsewhere.

chine year-round," Koval says. "However, if the equipment is going to consistently be used in heavy applications and for long periods of time, a more substantial tractor should be considered."

Landscapinq tractors

Landscaping tractors provide contractors with the rugged performance capabilities and durability that will keep the machine operating for long periods of time in more adverse conditions. These products are designed with a single-piece mainframe and integral loader to provide the strength needed for more heavy-duty operations.

Common applications for these maneuverable tractors are in new residential and commercial complex construction where extensive amounts of loading, grading and planting are required. Popular in rental yards and with landscape contractors, these higher horsepower tractors feature a torque converter and shuttle to help maintain optimum performance of the synchronized transmission.

A three-point hitch can provide up to five hydraulic functions for more precise control of the many mower, rake, box scraper and broom attachments available.

Many of these tractors are also available with four-wheel-drive for a more productive loader operation, greater drawbar pull, better traction with attachments and more tractive effort on muddy or hilly terrain.

Skid-steer loaders

Skid-steer loaders are utility machines that can be a valuable asset working alone or in conjunction with a tractor or loader/landscaper.

Their small size and excellent maneuverability enable skid-steers to fit through narrow areas, operate in tight spots and make tight turns. One company has a skid-steer loader that is only 35 inches wide, but has a 550-lb. lift capacity.

"Skid-steer loaders not only replace a man with a wheelbarrow, they also can accomplish the smaller landscaping jobs that tractors cannot handle," Koval notes.

In a nursery, a skid-steer loader can be driven down narrow rows to transport shrubs and small trees. In the back of the lot, it can move materials and has the reach to dump soil or gravel into small trucks.

On a landscaping project, these versatile machines can spread and contour topsoil, transport shrubs and small trees and move gravel and bark into place to finish a job.

A skid-steer loader with a smooth-bladed bucket may be used to build up planting areas. Because skid-steer loaders are designed to accommodate a variety of attachments, the operator can switch to an auger attachment to dig holes for bushes, small trees or even post holes for a split-rail fence.

Along with a variety of buckets, other skid-steer loader attachments include pallet forks for loading, tree spades, grader blades and backhoes.

"There are a variety of options landscape managers can employ when it comes to choosing equipment for their operations. Equipment rental is often a viable choice when a specialty application arises and an equipment purchase is not cost-effective. The key is to realistically evaluate needs to ensure that the equipment investment pays off by meeting current as well as future needs," Koval concludes. **LM**

Skid-steer loaders maneuver well in small areas.

Spray herbicide directly over the top of your established shrubs and ornamentals? Go ahead. Surflan® lets you spray with complete confidence.

All you'll see are the bright colors of your landscape or lawn. No crabgrass. No oxalis. No chickweed. And no prostrate knotweed and 50 other grasses and weeds, either. You won't see them for six to eight months, in fact, when you spray Surflan preemergence herbicide.

You'll also see Surflan is more stable on soil surfaces. It'll wait three weeks for water. Then it stays put, even in heavy rainfall, to provide outstanding weed control. Yet it's gentle enough to spray over the top of 175 different ornamentals.

So go ahead. Fill up with Surflan and take your weed control where you never thought possible. Over the top of your ornamentals without injury. See your Elanco distributor. Or call toll-free: **1-800-352-6776.**

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Surflan® — (oryzalin, Elanco)

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What The Average Person Considers Big Trouble.

We're not ones to walk away from trouble. But, like you, we do everything we possibly can to avoid it.

So, with a lot of feedback from our Tech Reps, we found a simple, effective way to stop weeds before they even start. Our versatile pendimethalin preemergent weed control.

Its combination of broadspectrum action, control effectiveness and residual is unsurpassed. And we offer it in dry and liquid applied forms, with or without fertilizer, for greater flexibility.

What A Scotts Tech Rep Considers Big Trouble.

Most important, since pendimethalin is so cost-effective, your Scotts Tech Rep can tailor a preemergent program to both meet your needs and your budget.

So if weeds are threatening you, try our pendimethalin. It practically scares them away.

For more information contact your Scotts Tech Rep or simply call 1-800-543-0006. In Ohio call collect 513-644-2900.

Scotts. ProTurf.

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PART II OF II

BLUE-GREEN ALGAE AND BLACK LAYER

Researchers throughout the country have proposed theories on the causes of the black layer destroying sand greens. Last month, LANDSCAPE MANAGEMENT looked at some of these theories. This month, we examine preliminary research conducted at Iowa State University.

by Clinton F. Hodges, Ph.D., Iowa State University

The preliminary studies presented here on the role of blue-green algae and anaerobic bacteria in black layer formation were begun in the fall of 1986. Our initial studies examined the ability of *Oscillatoria* to colonize sand and to produce mucilage that would ultimately restrict water infiltration into the sand.

These studies were conducted with silica (quartz) and calcareous (10.6 percent calcium) sands placed in modified culture tubes.

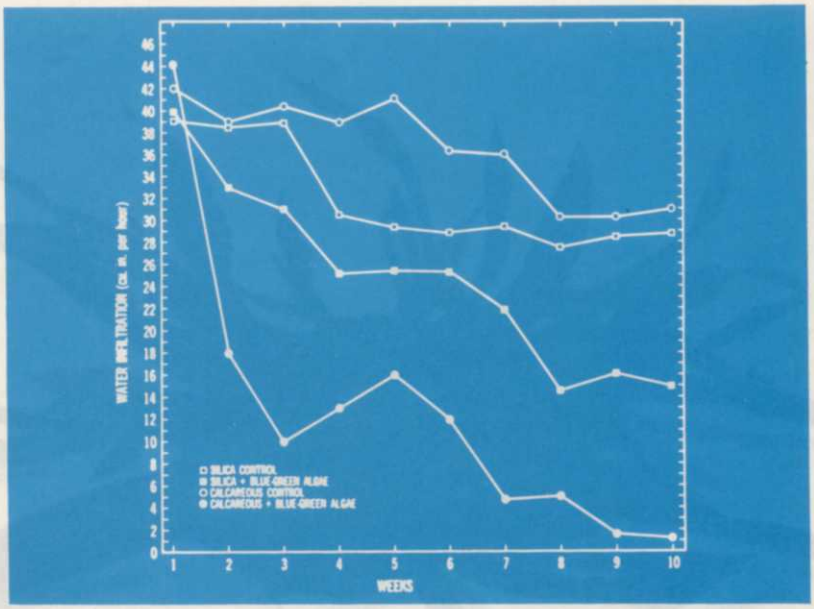

Photo 1: The chart shows the effect of *Oscillatoria* on water infiltration into silica and calcareous sands over a 10-week period.

Unless specified otherwise, 95.7 percent of the sand was between 0.1 and 1.0 mm in size. Each tube provided a six-inch column of sand approximately one-inch in diameter. The algae were introduced to the surface of the sand and maintained under flourescent lights with weekly applications of a weak nutrient solution. The tubes were flushed with distilled water between nutrient solution applications. *Oscillatoria* was grown 10 weeks on the sand columns, and infiltration measurements were taken every seven days (Photo 1).

Initial water infiltration rates of the columns ranged from 39.1 to 45.2 cu. in. per hour for both the silica and calcareous sands at the time *Oscillatoria* was introduced to the sand's surface. Infiltration among control tubes decreased slightly over the 10-week observation period but remained very high (Photo 1). Infiltration rates decreased slowly over the 10-week period in silica sand infested with *Oscillatoria*; at 10 weeks infiltration was about 54 percent of the control (Photo 1). Infiltration of the calcareous sand infested with *Oscillatoria* was severely reduced; at 10 weeks infiltration was 4.8 percent (1.5 cu. in/hr) of the control (Photo 1).

Infiltration was more severely affected on calcareous than on silica sand. Most species of blue-green algae grow most successfully in alkaline conditions and may use calcium carbonate. The initial slowing (first five weeks) of water infiltration by the algae seems due to their physical blockage and sealing of the sand's surface.

Ten weeks later...

By 10 weeks, however, the algae can be removed from the sand's surface and the infiltration rate remains the same. This suggests that the extra-cellular by-products of the algae (mucilage) gradually fill the pore space in the sand until water movement is seriously impaired. The mucilage products are visible in drainage water collected from the tubes.

These initial observations support two important aspects of the hypothesis that black layer is of biotic origin.

1) There is little doubt that a biotic entity (in this case blue-green algae) can, by means of its life processes, produce a physical problem in the sand mix profile that impairs water movement.

2) Organic substances produced by the algae that are responsible for the impaired water movement are hydrophilic. They seem to be responsible for establishing a perched water table in the top two to three inches of the sand mix that may establish the anaerobic zone needed for black-layer development.

Studies in progress are intended to

repeat these observations with more precision and to examine the effects of iron, sulfur, lime ($CaCO_3$), gypsum and the common sugars found in grass tissues on proliferation of algae and the rate at which they interfere with water infiltration.

The odor's origin

Some of the odors associated with black-layered greens may come from the algae. A variety of odors are produced by the different algal species being examined. These odors also may be changed by the substratum on which the algae are growing.

The species of *Oscillatoria* and *Nostoc* being examined produce an earthy or swampy odor on the sand columns when supplied nutrient solution only.

It is interesting, however, that if a carbon source is provided, such as fructose or glucose (sugars commonly found in grasses), *Oscillatoria* will generate large quantities of gas with a distinct sulfur odor. The gas is generated in quantities great enough to lift the algal culture off the surface of the sand column. The nature of the gases generated by the algae and their potential importance in black layer and the turf's death is unknown.

It is suspected, however, that some hydrogen sulfide may be generated. Also, the mucilage of some algae may produce polysaccharides that contain sulphate groups. These polysaccharides also may emit a sulfur odor. Some preliminary analyses of C_1 to C_3 hydrocarbons indicate that small quantities of methane, ethane, ethylene and some still unidentified gases are also associated with the growth of the blue-green algae on the sand columns. The decrease in water infiltration, the production of mucilage, and the evolution of potentially toxic gases by blue-green algae still fail to explain black layer formation.

Bringing in bacteria

After the 10 weeks of infiltration studies and observations on mucus production and gas evolution, there was no indication that black layer was developing in the sand columns. At this point, anaerobic bacteria were introduced into the sand columns. The reduced water infiltration caused by the accumulation of mucilage and other organic by-products of the algae would seem to provide a substratum for the bacteria and a potentially anaerobic (or at least very poorly aerated) environment.

The mixed cultures of bacteria were injected into the sand columns with a syringe; 5 ml. of bacterial suspension was placed two inches below the sand's surface and the algal colony. The sand columns were maintained as previously described.

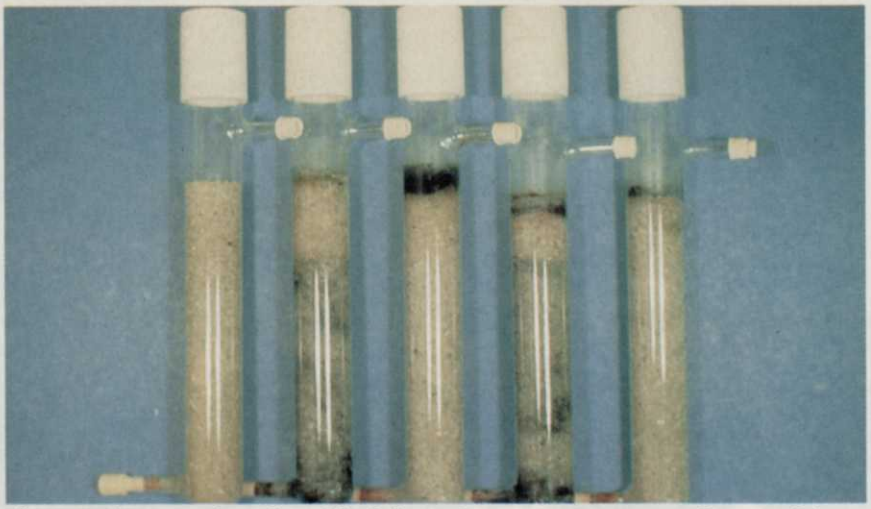

Photo 2:The test tubes show black layer formation in coarse silica sand (0.5 to 2.0 mm) in response to the combination of blue-green algae and bacteria. *From left to right:* control, *Oscillatoria* isolate OS-1, *Oscillatoria* isolate OS-2, *Nostoc* isolate NS-1 and unknown.

The columns were unwrapped at two-week intervals to determine if black layer was developing. Between six and eight weeks after introducing the bacteria, some uneven darkening of the sand was observed. Between 10 and 12 weeks, well developed black zones were well established in several sand columns (Photo 2). Blackening was most visible in the silica sand (due to greater color contrast). Development in calcareous sand seemed somewhat slower and was somewhat less distinct (probably due to less color contrast) (Photo 2). The substance(s) responsible for the blackening are unknown at this time.

Sensitivities

However, the black layer seems sensitive to air. When well-aerated water is flushed through the tubes in large quantities, the blackening seems to fade, but will regenerate when flushing is stopped. Formation of the black layer in the sand columns seems to require both algae and bacteria and takes between five and six months to form under laboratory conditions.

To date, blackening has not been formed by algae or bacteria alone. It is possible, however, that provided with an alternate substratum (other than algal mucilage) and poorly aerated conditions, bacteria might still function to form the black layer.

Results of these preliminary studies support the hypothesis that black layer can result from an abnormal microbiological ecosystem consisting of algae and bacteria on high-sand content greens. It is possible that other factors may also contribute to black layer formation, but the biotic system can account for the extensive viability found in black-layered greens; that is, infiltration and drainage, variations in odors, variation in developmental patterns and variations in toxicity to the turf.

Modern turf demands

Why the problem exists and has proliferated on high-sand content greens is not entirely clear. The organisms being examined in our research are not inherently damaging to turf; however, it seems that cultural systems which have evolved over the last 20 years on golf greens favor their abnormal development. Demands placed on the high-sand content green to provide the kind of surface wanted for today's golf game may be greater than the turf and its growing media can provide. This intense management may be responsible for the abnormal proliferation of algae, bacteria and fungi.

The time may be upon us when we may be forced to reevaluate the demands in realistic terms of what a living turf can, or cannot provide.

In the meantime, for the superintendent plagued with the black layer problem, minimizing irrigation (provided Mother Nature cooperates), increasing aerification, and raising mowing heights to the extent that the golfers will tolerate may help slow the damage done by black layer. **LM**

ACKNOWLEDGEMENTS: Preliminary research presented in this article was supported in part by the O.J. Noer Research Foundation, the Iowa Golf Course Superintendents Association and the Iowa Turfgrass Institute.

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PART II OF II

SELECTING SOFTWARE

Few landscape and lawn care businesses can run effectively these days without computers. Last month, LANDSCAPE MANAGEMENT told business owners what to look for in computer hardware and software. This month, we review some of the software programs available to the green industry.

by Rudd McGary and Ed Wandtke

Months ago, we sent out inquiries to companies that program computer software for the green industry. Many companies were kind enough to respond by sending us their actual software for appraisal. Others sent us literature.

Here is our appraisal of the companies who sent programs. For the names of those companies who sent literature, see the accompanying list.

Landscape

Computerized Studio Management

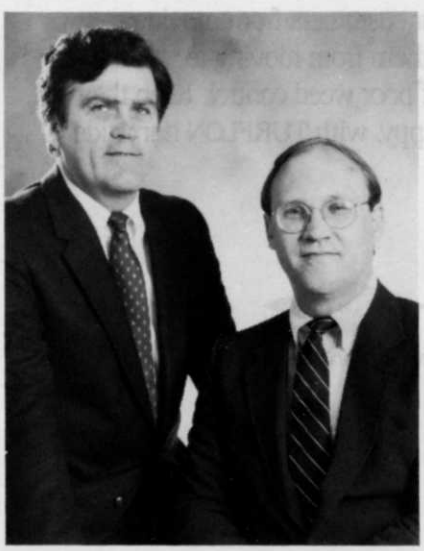
Landscape Business Data Manager

This is a menu-driven business program for landscapers with seven main parts of the menu.

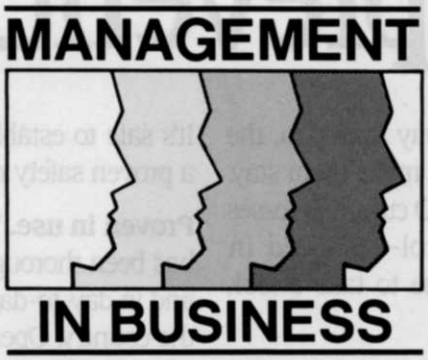
The daily activity log has sections on employee hours, customer activities, and posting daily activities to the bill log. It can also review previous work. The customer billing will print bills for all work done within the month. The printing is done on standard forms available at any computer supplies store.

The financial records section enters customer payments, changes in those payments, customer's payment history, all customers' balances, plus a section on banking and cash disbursement.

It has sections on vendors and check reports.



Wandtke and McGary are senior consultants with All-Green Management Associates in Columbus, Ohio. Dr. McGary focuses on marketing and managenent issues. Wandtke focuses on operations and financial questions.



This covers most of your needs for A/R and A/P.

Payroll computes pay for a specific employee. It does not print checks.

The quarterly tax reports compile the sales, payroll and unemployment taxes for your company. The business report prints out income, payroll, checkbook, disbursements, monthly bill, service history and customer mailing labels. The lead tracking section gives you a record of the name, address, date of visit, estimate and comments for each of the leads you enter. It doesn't have a field for source of lead.

Overall, this is a very usable program for landscapers. There are areas that aren't covered, such as marketing information and general P&L capabilities, but it does have most of the basics needed for a landscaper. A job cost analysis section would be a good addition for this software. It is easy to understand, menu-driven, and would be a good program for those companies beginning to computerize with a cost low enough that it is affordable by most landscapers.

Quintessence Computing

See lawn care review.

Landscape Computer-Aided Design

Abracadata

Design Your Own Home/Landscape Design:

This program is a surprise, mainly because of price. It is written to be very simple, for use by almost anyone with an interest in landscape design. As with any of the computer-aided design (CAD) programs, it is used with some sort of pointing device so that you can work your designs on-screen.

The Apple II software is strictly a landscape design program, although other modules are available.

The instructions are easy to follow, and persons without any prior background in computers should be able to boot it up and use it.

There are many things this program doesn't do like estimating, growth simulation for plants, job costing and plant data base. However, its price is inexpensive enough that you should consider it as a tool that can be helpful in beginning your CAD work. It is available from dealers around the country.

Landcadd Inc.

Landcadd

This is a very powerful design tool. In addition to the regular modules, a set of construction detail disks have been released recently. They sell for $99 for six or $795 for all 54.

While this is a sophisticated system, it isn't hard to use. It gives a wide range of uses for the landscaper and also gives management information that can be used in bidding and cost analysis. Originally designed by an ASLA member, it takes into account almost all of the variables needed to show a very professional design. The key to its cost is the detail available and the total writing of the software. This package is available from dealers who act as the support system.

(For both of the above CAD programs, an additional cost will be the printer or plotter you use. These vary greatly in price, from $750 to $10,000+. It depends on the quality and speed you want from your printing peripheral.)

Vehicle maintenance and repair

Diagonal Data Corp.

Fleet maintenance

This is an extremely powerful program designed for use with mutliple-vehicle companies. If you're just starting a company in landscape or lawn care, this isn't for you. But if you're getting to a size where vehicle maintenance is an important component part of your total costs, this program would be extremely valuable.

The program can be customized so that any type of company can use it. The key to its usage isn't only the number of vehicles in use but also the complexity of the types of functions that the vehicles perform. It can be upgraded from the PC configuration to a multi-task, multi-user one and this allows for growth in the company.

This may not be for all companies, but it certainly is an invaluable tool for those who want to be able to control a vital part of the cost components of operation in the green industries and who are large enough so it is a necessity.

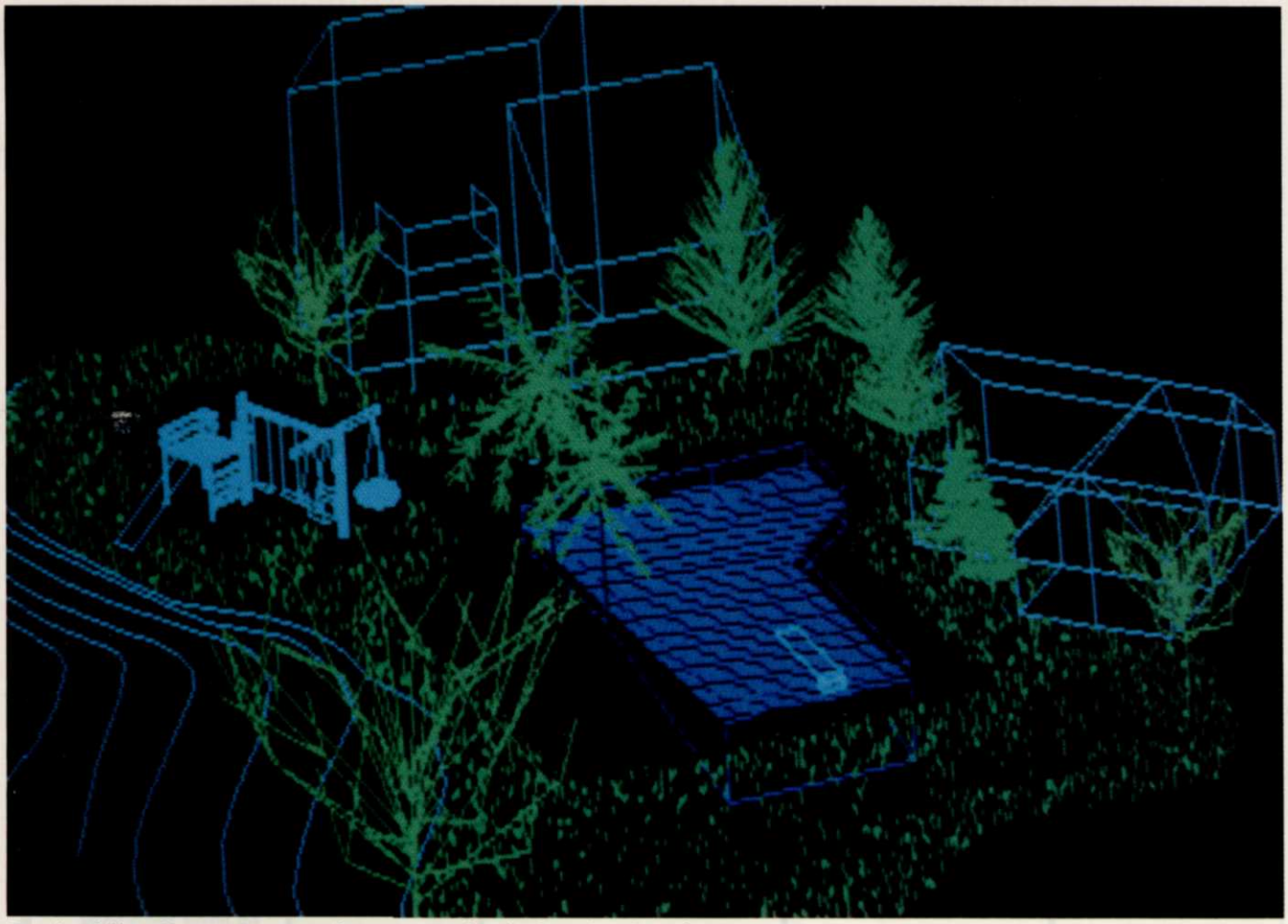
Lawn care

There are six programs reviewed here. All six are sound and fair value. They are listed in alphabetical order.

ADS Software

ADS Residential/Commercial Services, Accounts Receivable

This is one module of a larger package written by ADS. The other packages are general ledger, accounts payable, payroll and inventory. All are integrated into the general ledger program, although not on a real time basis. ADS Software, Inc. writes business programs for use specifically for the small business, a category that fits many of



Landcadd's software program lets companies design sites in color.

the owner/operators in the green industry.

The A/R program consists of several operations, including an integrated invoicing program available.

It is a well-written program, which takes into account the repetitive billing systems used in the green industry. Routing information is also available on this package. The only concern is that it is a generic package, albeit well-written, and this will mean that certain types of functions found in lawn care aren't in the package as it stands. Menu-driven, it has an easy-to-learn fill-in-the-blank format. This program has good audit trail features which guard against double entry.

It should be noted that other programs are available in this ADS series so that you could begin to use other parts of information control as you became comfortable with your computer system. The generic nature of the system makes it one that all small businesses could use, but it also means that you will have to adapt some of your procedures to the program. ADS is well known for its software and deserves its strong reputation. Your question is whether or not to begin with a generic program for your needs.

Comp-U-Green

Management Systems for Lawn Care Industry

While the target market for this software/hardware package is described as companies with multiple-branch locations, it can also be used by the single-location company with expectations of growth. It is a powerful program consisting of eight modules, although it isn't necessary to purchase all of them at one time. The price will depend on the modules that are purchased. It should be noted that the price includes hardware as well.

Report generator and word processing modules are only available when using the Contel Tiger mini-computer.

The A/R module consists of production work and routing reports, invoice printing, daily work posting, open invoice reports, service calls, customer information screen, daily sales status, daily ledgers and daily posting. In this module are square foot and dollar amounts for all routes, work orders, a daily recap of production, and listings of all new sales and cancels for the day. These then can be translated into monthly work.

The sales system module can be used with personal sales or telemarketing systems. It shows all estimates pending with the source of the lead, estimates completed, and a mail file is used to develop your own list.

The inventory module gives you daily fill tickets and route reports showing the chemicals, miles, gas used and time needed. Reports are generated for each applicator. The usage for each chemical is updated as dollar amounts and units are used. The reports can be run for any amount of time. On a periodic basis you can see inventory cost, status, adjustments (purchases), chemical use, trucks and production management reports by applicator. This module also has employee records, employee evaluation records, and time clock entries.

The accounts payable module tracks all outstanding bills, bills paid and checks written. It also has vendor analysis reports and cash flow reports based on due dates of outstanding bills. It automatically updates to the general ledger system and reconciles your bank statement.

The general ledger has daily journal entries which, if active on the other modules, are automatically done. An income statement, balance statement, asset depreciation, and loan schedule reports are available in this module.

As you can see, this is a complete lawn care package. Don't be put off by the prices, they include hardware. This is best used by larger multiple location companies with multi-task, multi-user needs, but some of the companies currently using it are smaller. There is more to the program, but this brief overview will give you an idea of the depth of the program from Comp-U-Green.

Distribution Management

CLC1

This menu-driven program was designed for a lawn care company. More than 70 lawn care companies currently use CLC1 as their computer system. While it can be used by the smaller company, no less than 500 customers is the suggested lower limit. CLC1 focuses on companies experiencing growth over the 2000 customer number. The program has a great many features; mentioning all of them would overload the page. Here are some that specifically pertain to lawn care companies.

Many of the applicable variables in the customer file are available on both daily and a weekly list basis. This part of the program gives you control over all the standard customer interactions a lawn care company would have.

The invoice section prints invoices in generic, blank and pre-printed forms. It also shows invoices printed but not posted.

The credit/cash section gives control over your cash functions in the company. Within this program you find credit memos, cash receipts and journals for both, customer aging A/R information and an aging trial balance. In addition, this section controls your daily cash receipts and has a hold system for customers past due. A special feature is a series of "flags" that come up for specific customers, which will help in collecting receivables and avoid rendering services to non-paying customers.

The report section, a valuable set of management tools, includes reports on routing, daily

production, application scheduling, monthly production, commission reports, customer history reports, monthly cancellations, sales report by routes, sales by salesmen, a production receipts journal, and a sales tax-by-tax code report.

We believe that all of these are important areas for management to control in order to affect the profitability of the company.

What isn't here? Payroll, vehicular maintenance, marketing and financial forecasting, among others. The company provides the customer with an executive summary of functions of the program as well as documentation, approximately 300 pages in length, which is easily usable and user friendly, as most menu-driven programs are.

Practical Solutions

Lawn Care Management System

More than 65 companies use this popular program. It is written for both large and small companies. As with many programs, the first use is generally in the A/R area with billings and past due accounts the focus of the first-time user.

The customer module provides standard information as well as route lists, and service request lists. The information can be sorted several ways and gives a trail in information concerning individual customers as well as grouping these lists according to the owner/operator needs. This interfaces with the Word Perfect word processing program for use in designing various types of letters for use in customer communication.

The A/R section handles all billing functions and includes sections for pre-payment handling, billings, cash trails, and credit policies. Estimate

continued on page 38

PROGRAM	MANUFACTURER	HARDWARE	PRICE	SOFTWARE
Landscape Business Data Manager	Computerized Studio Mgmt. 6143 Jericho Tpke. Suite 26 Commack, NY 11725 (516) 499-8891	IBM PC compatible (dual floppy disk, but hard drive is recommended)	$895	Daily activity log, customer bills, financial record management, payroll, quarterly tax reports, business reports, lead tracking
Design Your Own Home/ Landscape Design	Abracadata P.O. Box 2440 Eugene, OR 97402 (503) 342-3030	Apple II series (dual floppy); IBM PC compatible, XT, AT; used with paddles, graphics pad or joysticks	$69.95 (Apple) $99.95 (IBM)	architecture, interior, landscape
Landcadd	Landcadd 10418 E. Tanglewood Franktown, CO 80116 (303) 688-8160	IBM PC, AT, XT; used with pointing device	$4395 (includes all modules, Autocadd system)	site planning, landscape design, irrigation design, estimating, plant data base, growth simulator
Fleet Maintenance	Diagonal Data 2000 E. Edgewood Dr. Lakeland, FL 33803 (813) 666-2330	IBM PC, XT or IBM 36	$4950 (PCXT) $14,950 (36 series)	parts inventory, tire inventory, fuel and oil usage, monthly parts report, quarterly maintenance forecast, scheduled work order summary, schedules vs. actual work order summary, personnel performance analysis, reason for repair listings, parts and labor journals, procedure descriptions list, variable costs listing, master vehicle listing
ADS Residential/ Commerical Services Accounts Receivable	ADS Software 707 5th St. NE Roanoke, VA 24016 (703) 344-6818	PC compatible	$695; $995 with general ledger	customer records, customer file listing, sales posting, customer statements, aged trial balance, sales reports, past due notices, general ledger update
Management Systems for Lawn Care Industry	Comp-U-Green 3718 Antioch Ct. Cincinnati, OH (513) 733-0969	CADO	$8,000 (single-user) $14-20,000 (multiple-user)	accounts receivable, sales systems, inventory, general ledger, accounts payable, payroll, report generator, word processing
CLC1	Distribution Management Systems 11823 Arbor St., Ste. 110 Omaha, NE 68144 (402) 330-6620	Data General mini-computer	$3500 (single-user; $4500 (multi-user with $1000 terminal add-on fee)	standard customer information, letter printouts, daily cancellations, area lists of customers and prices, daily sales reports, customer reports by route and name, zip code locators, tax file list, unpaid hold list
Lawn Care Management System	Practical Solutions 500 W. Wilson Bridge Rd. Worthington, OH 43085 (614) 436-9066	IBM compatible with 20 mg hard drive	$4500	accounts receivable, daily activity report
The Lawn Assistant	Real Green 2775 Hagerty Rd. Walled Lake, MI 48088 (313) 669-1118	IBM XT/AT with 20 mg hard drive	$3500; $4095 with general ledger	standard customer information, daily activity
AM+	Quintessence Computing 3001 Lake Austin Blvd. Austin, TX 78703 (512) 477-9038	IBM compatible or Digital PDP series	$4000 (IBM); payroll $2500, inventory $2000, general ledger $2000, accounts payable $2000	accounts receivable, customer information, order processing, management information

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forms, pricing routines, and credit policies are programmed to fit the individual company at no additional cost.

The daily activity report can be used to show territories, zips, types of treatment and customer type. Various reports show the different treatment programs offered by the company and correlating that to the total customer list.

Employee information is also available giving a tracking of performance and evaluation, including closing percentages and activities done by applicators.

LANDSCAPE SOFTWARE

The following is a list of companies which also have developed software for the green industry. These companies contacted LANDSCAPE MANAGEMENT, but did not send programs to review for this article.

Computer Associates Inc.
36 Thurber Blvd.
Smithfield, RI 02917

Computerized Business Solutions
5660 W. Cypress
Suite A
Tampa, FL 33607

Display Data Corp.
Executive Plaza IV
Hunt Valley, MD 21031

Fortunate Enterprises
3365 Oleander Dr.
Spring Hill, FL 33526

The Green Scene
5842 Tampa Ave.
Tarzana, CA 91356

Microbilt Corp.
P.O. Box 723368
Atlanta, GA 30339

Nicholas Data Service
2497 East Bay Dr.
Suite 210
Largo, FL 33541

Rainbow Systems Inc.
P.O. Box 81
Somerset, NJ 08873

Simplicity Business Computer Systems
P.O. Box 4595
111 Freestate Blvd.
Shreveport, LA 71107

Small Business Management Systems
92 Walling Rd.
Warwick, NY 10990

Softwhere?
P.O. Box 3336
Yuba City, CA 95992

Thornton Computer Management Systems
424 East U.S. 22
Maineville, OH 45039

Charles Vander Kooi
Estimating Software
P.O. Box 621414
Littleton, CO 80162

Payroll and accounts payable functions are not included in this program.

Perhaps the most important part of the entire program is the number of reports available for management use, 47. While many first-time users don't use the program's total capacity (this is true of all of the programs reviewed), these reports will give a manager an excellent basis of information to be used in operating the company.

The program is targeted to companies with 1000+ customers with at least four trucks. The ability to grow to multi-task, multi-user configuration is done with the Unysis system so that the growing company can expand its computer capacity as the needs occur.

The program is easy to use, the documentation is concise, and it can be employed by anyone from the first-time user with a growing company to the larger company seeking ways to control the information and manage through use of the information.

Real Green

The Lawn Assistant

This program is designed for use with smaller operators, but the company will release programming for multi-task, multi-user configurations in December, 1987, so that growth companies can use the basic configuration and upgrade at a later date if warranted.

The program, as with most of those reviewed, focuses on the operations side of lawn care. You can set up your lawn programs, show your routes, your pre-pays and the condition of the lawns you are servicing. The rounds are set so that routing is available and can be done using the program.

Customer information includes standard variables as well as changes in lawn program, special applications, the current customer status, cancellations and the reasons for them. All customers can be printed out by number, name, streets, routes and zips. Invoices will be done with a sheet feed printer.

Transactions are posted with adjustments available as well as a payment entry screen. In the sales tax category, both accrual and cash basis systems are available, something that will prove valuable with changes in the reporting systems being implemented. The daily activity of lawns sprayed is available, including information on employee, round, service codes, rating of the lawn, problems encountered and extra product used.

There is no payroll or inventory capability.

One of the features of this program is its speed. Because a very fast programming language is used, the operator gets information and reports very quickly. This isn't a function of the machine itself, but rather of the programming design. This translates into less computer time needed for operating, something that can be very valuable.

This program would be extremely useful for the smaller growth company and with the expected addition of the multi-task multi-user programming would be expandable to larger companies. It is being used by 35 companies.

One additional feature is an "800" phone number for users to call with questions. This may turn out to be handy if you have continuing dialogues with the company.

Quintessence Computing

AM+:

Quintessence Computing provides both multi-task, multi-user configurations as well as PC software for lawn care, landscape maintenance, tree care and nurseries. The package being reviewed is for the lawn care industry.

The AM+ program is menu-driven, making it usable by current clerical staff.

Customer information includes standard variables, service remarks, special services, payment tracking, map/route coding, beginning-date-of-service, mailing labels, and post cards/mailers for follow-up marketing. A master customer list for mailing or phone work is available.

The work order section delivers information for the work to be processed, special features and remarks for the specific customer, service descriptions, and automatic inclusion of credit balances.

The A/R includes daily sales and receipt journals for audit trailing, aging reports, sales tax liabilities, repetitive billing, and dunning notices at user-defined intervals.

The management section has information concerning sales totals by customer type, geographical or employee, production statistics by employee or geographical area, advertising results, customer counts by employee and geographical area, sales by period, cancellation analysis, and the ability to produce marketing letters.

AM+ is an extremely powerful program, particularly with the addition of the extra modules of payroll, A/P, G/L and inventory. All of the modules are integrated into the general ledger package, giving a management tool which is valuable to any company. While the program reviewed is written for use with smaller companies, it has the capability to expand to large configurations of multi-location companies with multiple cost centers, budgeting and historical comparisons.

Even with all this sophistication, it is usable by companies with as few as 500 customers. **LM**

The Lawn Assistant from Real Green focuses on the operations side of lawn care.

LANDSCAPE MANAGEMENT
Formerly WEEDS TREES & TURF

LAWN CARE SPECIAL

YEAR OF THE BUY-OUT

Never before has the ownership of so many lawn care companies changed hands in 12 short months. What do these acquisitions and buy-outs mean to the average LCO? Read on.

by Jerry Roche, editor

1987. The Year of the Buy-Out in professional chemical lawn care.

Consider what has happened in the last 12 months:

- The ownership of ChemLawn, the country's largest lawn care company, changed hands.
- More than 20 of the nation's *other* largest lawn care companies were involved in buy-outs, acquisitions or mergers.
- The "Million Dollar Lawn Care List" published annually by *Lawn Care Industry* magazine is expected to decline by at least 10 (from 57) in 1988. This list has never previously, in its 11-year history, experienced a decline.

"If you look at other industries, what we're going through is a part of normal maturation," says Jim Brooks, executive director of the Professional Lawn Care Association of America (PLCAA).

"But it's also saying that, despite the regulatory problems and the pesticide controversy, there's still confidence in the market.

What does this mean to the little guy, the under-$500,000 business that is the backbone of the industry?

"Individuals who like *doing* rather than *managing* may want to get out now while the business is still there to get rid of," says Ed Wandtke of All-Green Management. Wandtke implies that the increasing number of large companies will use

refined marketing skills to garner the market now being serviced by the small companies. "The exception is the mom-and-pop operation with just one or two routes, " he adds. "The moms-and-pops will always be around."

How have these business transactions affected the lawn care operator, who has been an entrepreneur for 15 or 20 years, and who—typically—is reaching a point in his or her life where some important career decisions must be made?

"It's been my observation that anytime in life there is change, people get nervous," observes Russ Frith of Lawn Doctor. "Yes, there's a lot of concern in the industry because we're now dealing with an unknown." The unknown, of course, is the future of individual companies.

"The guy that I might have sympathy for," Frith continues, "is the guy who might panic. Before deciding to sell, a lot of soul-searching has to be done. Opportunities will be available for some people to exit the industry on very worthwhile terms. But the decision shouldn't be made just because everybody else is selling."

For Marty Erbaugh of Lawnmark, the decision not to sell was easy.

"We're interested in keeping on top of what happens in the industry. We will not sell," he says. "Demand for the services is strong. I don't see our growth slowing down. Selling is a logical thing for a lot of people to do; the prices they're offering are generous. But I really like this business. It's still fun."

Frith also thinks the acquisition/merger situation should be good for the industry, if the new companies exercise "rational judgment." That means making decisions in the best interests of the lawn care industry.

Says Brooks: "We, as sort of custodians of the industry, would not like somebody coming in for the bottom line and not being sensitive to the issues we have in the public health sector." Brooks hopes any new entries in the market would help with public education and in lobbying for safe products and safe use of those products.

Despite all the acquisitions and mergers at top levels, business goes on for most lawn care companies. LANDSCAPE MANAGEMENT visited two such operations, McGinty Brothers in Chicago and the Milwaukee branch of The Davey Company. Profiles of those prospering businesses follow. **LM**

Brooks

Wandtke

Frith

Erbaugh

SOME RECENT LAWN CARE TRANSACTIONS

- ChemLawn (Worthington, Ohio) purchased Shur Lawn (Lincoln, Neb.)
- ChemLawn purchased Lawnrite (Long Island, N.Y.)
- Ecolab (St. Paul, Minn.) purchased ChemLawn
- New England Green (Springfield, Mass.) purchased Mister Lawn Care (Grand Island, N.Y.)
- New England Green merged with Turf Pro (Plymouth, Mich.)
- Rollins (Atlanta, Ga.) purchased New England Green
- Barefoot Grass (Worthington, Ohio) purchased Tempo 21 (Chicago, Ill.)
- Tru-Green (Atlanta, Ga.) purchased R.W. Collins (Satellite Beach, Fla.)
- Tru-Green purchased Lawn Groomer (Normal, Ill.)
- Tru-Green merged with Excelawn (Louisville, Ky.)
- Waste Management (Oak Brook, Ill.) purchased Tru-Green
- All-American Turf Beauty (Van Meter, Ia.) purchased Shur Lawn (Omaha, Neb.)
- Ever-Green (St. Louis, Mo.) merged with Superior Lawn (Louisville, Ky.)
- Lawnmark (Peninsula, Ohio) purchased Spray-A-Lawn (Orrville, Ohio)
- Thoma Brothers (Erie, Pa.) purchased Fox Valley Professional Lawns (Appleton, Wisc.)
- Laidlaw Transportation (Canada) purchased Monroe Tree and Lawntender (Rochester, N.Y.)

LANDSCAPE PROFILE

ONCE A HERO

In the old days, lawn care companies were heroes with homeowners. Today, negative media has changed that. But through education and custom-designed programs, McGinty Brothers Professional Lawn and Tree Care is winning again.

by Heide Aungst, managing editor

Charlie McGinty remembers the good ol' days in lawn care. Those were the days before the EPA, before the big operations like ChemLawn, before sign-posting and before media exposés.

"Back in those days it was more fun," says McGinty, president of McGinty Brothers lawn and tree care of Chicago. "Taking on a new lawn, you were a hero overnight when you turned a weed patch into a weed-free lawn. A lawn taken care of by us really stood out. Nowadays, there are not as many super-weedy lawns."

And, nowadays, homeowners are more likely to interrogate a company than praise them. That wasn't true in the '60s. "At that time, the issue was educating the public that there was lawn care," McGinty says. "It was quite a project until ChemLawn came along."

McGinty's father started spraying lawns in the late 1950s with a two-wheel cart. McGinty took over in 1960, and ran the business part-time while he worked in the Chicago forestry department. In 1963, the business became full-time. In '65 he incorporated. This year, projected gross sales are $1.4 million.

Although Charlie maintained the name, McGinty *Brothers*, his brother never joined the company. The name fits the company today, since several of Charlie's sons are involved in the business. Chuck McGinty Jr. is involved in many aspects of the company, including his position as maintenance manager of the fleet of 26 vehicles. Tim and Brian are spray technicians.

Other changes

Through the '60s, McGinty Brothers continued to grow, but changed little. Then came the early '70s and the formation of the Environmental Protection Agency.

The chemicals used by McGinty Brothers changed along with the lawn care industry. McGinty remembers using calcium arsonite and Zintron to control annual grassy weeds. McGinty used DDT for elm tree spraying.

Insurance problems have changed for McGinty Brothers, as they have for many lawn care companies. "We

Charlie McGinty discusses his successful business with lawn manager Charlie Meersman.

used to have a difficult time because of our tree work, but now carriers are more concerned about pesticides," McGinty says.

Things also changed drastically when ChemLawn started in the early '70s. Suddenly, family-run companies like McGinty Brothers had competition. And they had to find ways to compete.

Sales manager Pat McEntree and lawn manager Charles Meersman have designed and presented a company seminar/general training program. Management, office and production personnel are brought together for presentations on professionalism, safety, customer relations and possible problems in the field. "These seminars have had a positive impact in all phases of the operation," says McEntee.

"We used to rely on word-of-mouth and a little advertising in local papers," McGinty explains. "In the '70s we used direct mail. But the '80s demand new marketing strategies, some of which are winter telemarketing, trade magazine ads and—still most important—word-of-mouth."

Customer communication

Communicating with customers is perhaps what's kept McGinty Brothers in business. "We have an excellent reputation in this area among customers, universities and people in the industry. If that's success, I guess we're successful.

"But what I really attribute the success of our company to is the dedication of our people, especially our managers and office personnel."

JoAnne Hedrick and her office staff, Geraldine Opland and Jeanne Heinrich provide professional and personable first-time contact with prospective customers and handle any current customer questions. The company has 25 full-time employees and about 10 college workers in the summer. Last year, it laid off only one employee in the winter. The rest keep busy pruning trees. (The company has a full-service tree department that includes spraying, feeding, trimming, removal and land clearing.)

McGinty has expanded his training program so most workers are familiar with both the lawn and tree care businesses. Meersman observes that, "over the years, client awareness has increased appreciably, requiring more knowledge and professional field personnel."

The program

Meersman explains that the company's full lawn care program includes five applications, but that there are variations because clientele range from 1000-sq. ft. lots to the whole Illinois tollway system.

McGinty Brothers uses both dry fertilizer from Lesco and Classens and liquid fertilizer from Nice 'N' Green and Tyler Enterprises. The company blends its own fertilizer for each application by time of year and current weather conditions. Lescosan is used for crabgrass control. UAP herbicides are also used, as is Dursban for insect control.

Seeding

Another growth area for McGinty Brothers has been in slit-seeding and overseeding lawns in the spring and fall. Slit-seeding is done in two directions in a diamond-shaped pattern with a blend of bluegrasses and ryegrass. Core aerification and dethatching are done if needed.

Hydroseeding are the fastest-growing area in the company.

McGinty Brothers is active in the year-old ANVIL (Association for the use of Native Vegetation In Landscapes). McGinty vice-president Jim Safron works closely with Chicago's Lafayette Home Nurseries in doing golf courses, commercial properties and residences with native plants.

Some of the material is drilled into the ground with a Rangeland Drill, others are hydroseeded with a mulch. "The key is using enough seed and enough mulch," Safron says. "We use wood fiber mulch with a tackifier from Conwed or Weyerhaeuser."

McGinty Brothers has worked with prairie plantings for more than three years and plans to continue that addition to the lawn and tree care operation. Expansion, customer communication and employee dedication could lead Charlie McGinty to even more success down the road.

Maybe someday, 1987 will look like the good ol' days. **LM**

LANDSCAPE PROFILE

THE BEST POLICY

Honesty with customers is vital to effectively communicate with them. And communication is vital to a healthy business, as The Davey Company's Milwaukee regional manager knows too well.

by Jerry Roche, editor

Some people don't realize that lawns, like people, get tired and need rejuvenation."

Bill Whitmire, white shirt spotless, tie knotted neatly at the neck, is giving you his softsell.

"We get a lot of residual customers who don't buy the hardsell," he says. "Here in Milwaukee, you have to try to build a relationship with lawn care customers. The lawn business has become so competitive that the lawn care customer is looking for expediency. It's service more than price."

continued on page 44

Bill Whitmire

"You can't cut grass with headaches. That's why I switched to Bunton."

Bill Wright, President
Lawn-Wright, Inc., Gaithersburg, Maryland

"When I started my lawn service business seven years ago I had a push mower and riding tractor. It only took a year to realize I could cut a lot more grass in the same amount of time with one commercial walk-behind mower," says Bill Wright, president of Lawn-Wright, Inc. "Four years later I discovered Bunton. Now I can cut even more grass with the same number of mowers."

The reduction in maintenance headaches compared to his other mowers was so significant that two years ago Bill Wright replaced his eleven mower fleet with Buntons. Here's why he just bought seven more:

Welded steel deck construction

"With Bunton, the deck is reinforced and welded into a single piece, not bolted together like other mowers. With no bolts to fall out, the problem of sagging decks and misaligned belts and blades was eliminated. Our maintenance went down and quality of cut went up."

Stronger parts/better engineering

"Other manufacturers make caster supports, bell cranks and other parts from aluminum, which breaks easily. Bunton makes them from steel, so they're more durable. And, Bunton has fittings at all critical wear points so parts can be greased to make them last longer."

Better belt system

"Because the belts are wrapped in straight lines without twists or back-bends, our belt life increased by at least five times when we switched to Bunton."

Variable speed drive system

"Bunton's pulleys are larger so we get better belt contact and less slippage, even when they're wet and going up hills. We also get a larger range of speeds with Bunton than with other mowers."

Savings of time and money

"There are many other features on Buntons that lower my maintenance costs. Overall, I have saved at least $6,000 in the two years since switching to Bunton, not including the added profit from increased productivity."

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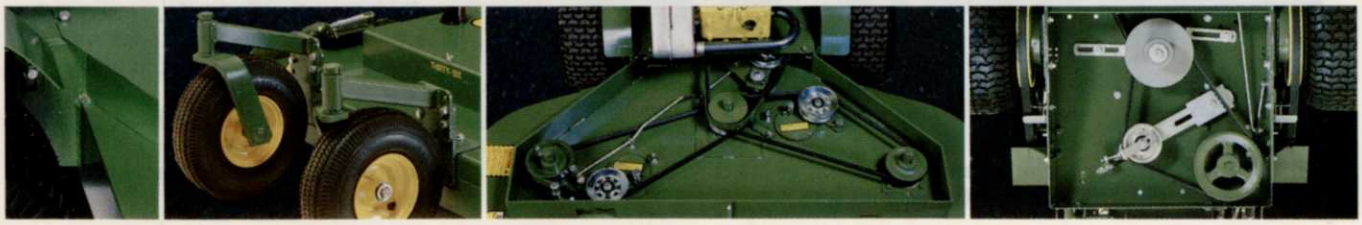

Circle No. 104 on Reader Inquiry Card

WHITMIRE *from page 42*

Whitmire, from his suburban Milwaukee office of The Davey Company, has come a long way from his spraying days in Akron, Ohio. He's done it by knowing the customer.

"Even though people here are service-oriented, they're also extremely price-conscious. They like to buy a programmed service rather than a full annual service. A lot of them take only two or three applications a year."

Whitmire *should* know the customer. He spends 70 percent of his time selling Davey tree and lawn care services. That means talking to about 150 customers and prospective customers a month.

Different sales

"Lawn care is a different type of sale than tree care," he continues. "Usually, tree care sales are in more affluent economic areas—where people can afford to pay hundreds or even thousands of dollars for a major service."

When it comes to dealing with customers, Whitmire says those on the lawn care side are the more critical.

"Tree care is not as great a swing in the looks of the property as in lawn care," he observes. "The (lawn care) consumer is oftentimes harder on our company. People have totally different expectations of what we can give them. Some want a total turnaround in environmental problems, and we can't do that.

"The problem is with the industry in general. The marketing approach has been too strong." Lawn care companies historically promise more than they can deliver just to make a sale, Whitmire contends.

"Davey's marketing thrust is to expound on the virtues of plant health care," he reveals. "That is, taking care of the property as a whole with a customized program." And, with both tree and lawn care services, Davey can do just that.

"We try to cover as many bases as we can with a client. Davey is one of the few companies in the country that can say 'we are an expert in both tree and lawn care' with conviction."

The best policy

Whitmire says that, in dealing with clients, honesty is the best policy.

"Most of the people that we're approaching now have been with other services. So most have come down the same road, especially in the lawn care field. If we need to do seeding, or if a lawn needs to be replaced, we tell them. And we are realistic."

Getting customers isn't the only problem in the Milwaukee area. Coping with anti-pesticide activity is another very real problem.

Two years ago, the city banned the use of the herbicide glyphosate (Roundup) in its park system. More recently, the Milwaukee Metropolitan Sewerage District came under fire as the media searched for a relationship between Milorganite (which MMSD manufactures) and Lou Gehrig's Disease.

"The Roundup thing was union-based. But the Milorganite thing really scared me," relates Whitmire, a distraught look washing over him. "I know how far-fetched a correlation that was, but I also know how reactionary the public is."

Indeed. When 2,4-D was under indictment for possibly causing cancer, The Davey Company was one of the lawn care businesses that decided to ban it from the program. Not because of any evidence of its toxicity, more as a public relations move. All Davey branches have substituted Trimec 900.

"Control seems to take a little longer with Trimec," says Whitmire. "But you seem to get good control in two or two-and-a-half weeks. You just have to let the customer know."

Doing it right

The company slogan, expounded by company founder John Davey almost 100 years ago, is "do it right, or not at all." Reflecting that philosophy, Davey wires its branches—including the one in Milwaukee—into its national programs, one of which is employee training. "We're a seasonal business, but we don't like to hire seasonal employees," says Whitmire. That places a premium on training.

"Historically, all the Davey lawn people went to a technical institute in Kent, Ohio," he adds. "Now we've gone to sending people to horticultural-type training to give them a more broad-based background." People employed by Davey for two years are sent to the one-month-long Davey Institute of Tree Science. Also, the company's Research and Development department will supply, on request, a training videotape that covers the areas of safety, sales and lawn or tree care technology.

As Whitmire so succinctly states: "Basically, all Davey has is equipment and people, and we take care of them." **LM**

Bill Whitmire (center), who spends 70 percent of his time in sales, believes that honesty with customers is the best policy.

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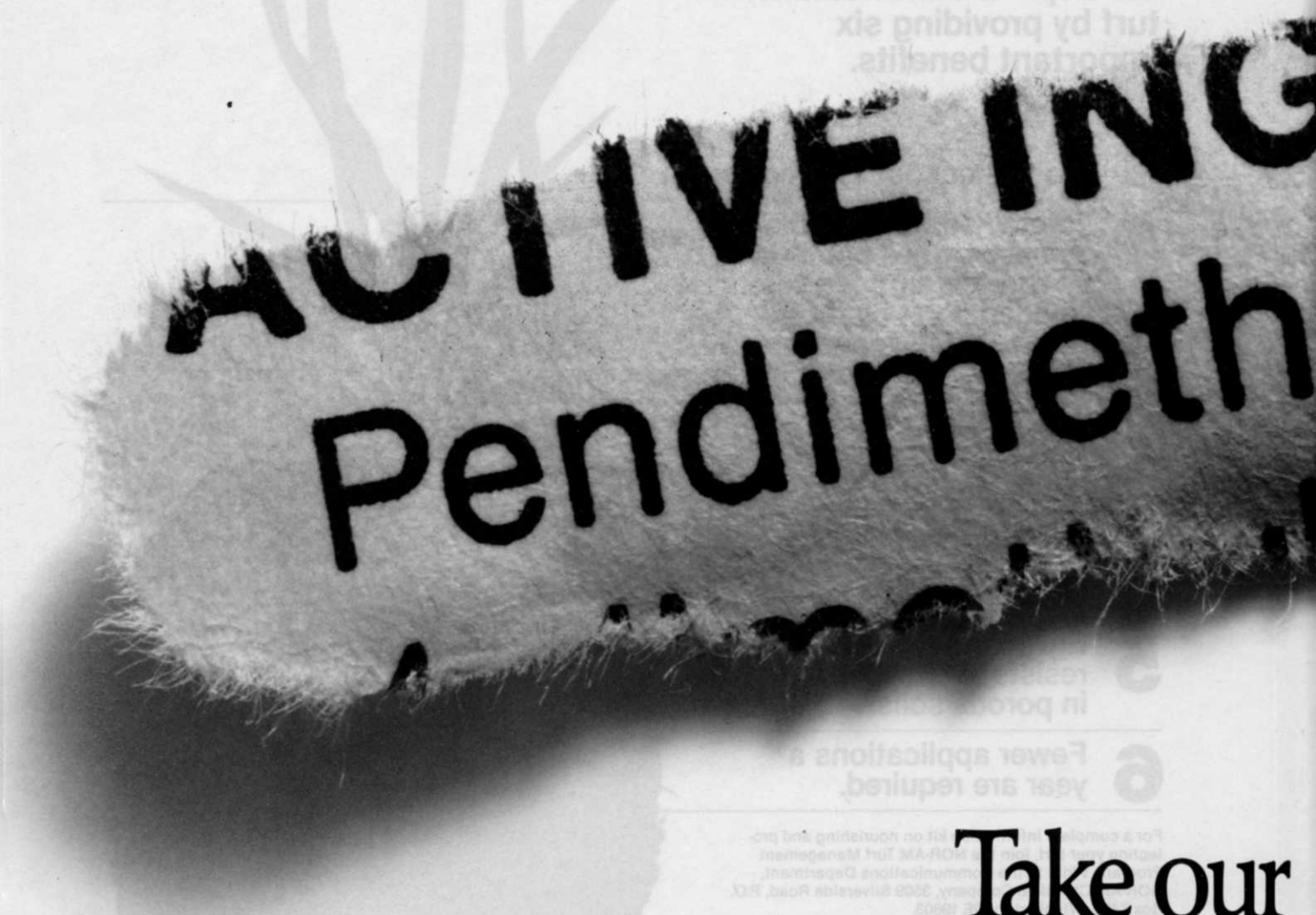
The most effective crabgrass



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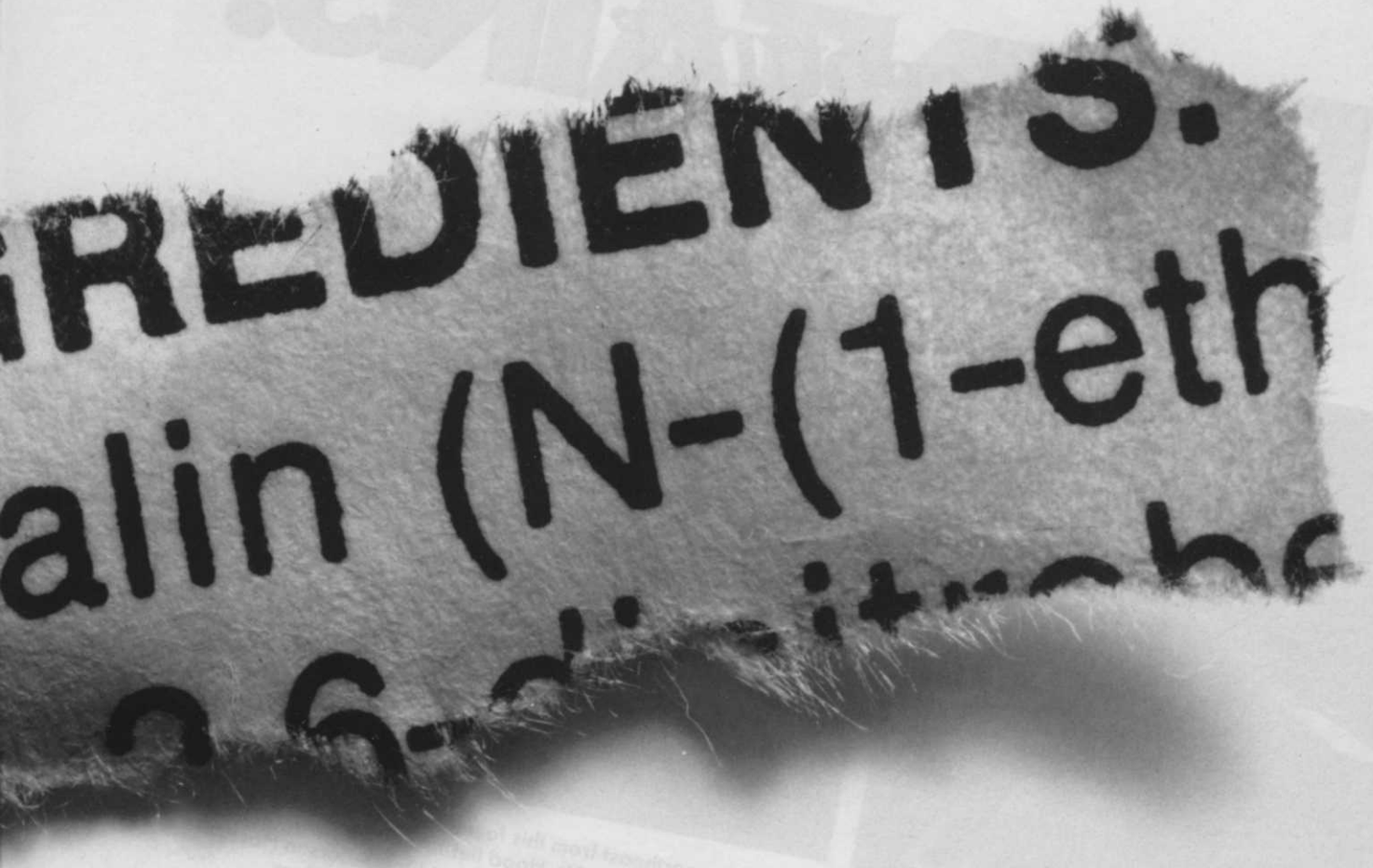
Labels of your best pre-emergent crabgrass and goosegrass herbicides have one thing in common. And it can be summed up in a word: *pendimethalin*.

That's because pendimethalin from American Cyanamid is the active ingredient that offers season-long crabgrass and goosegrass control in both warm and cool season turf grasses. And it does it very economically.

But pendimethalin controls more than just crabgrass and goosegrass. One low rate also prevents other tough grassy weeds including foxtail, fall panicum, barnyardgrass and *Poa*

and goosegrass control.



word for it.

annua. Hard-to-control broadleaf species like oxalis and spurge are also eliminated with the same rate.

What's more, pendimethalin breaks down into the environment. And it doesn't move laterally through the soil. Which means it won't seep into bodies of water or stop vegetation you don't want it to stop. Plus, pendimethalin-based herbicides don't have an offensive odor like some products.

So remember, when you select a herbicide with pendimethalin on the label, you have crabgrass and goosegrass control in the bag. And our word. Always read and follow label directions carefully.

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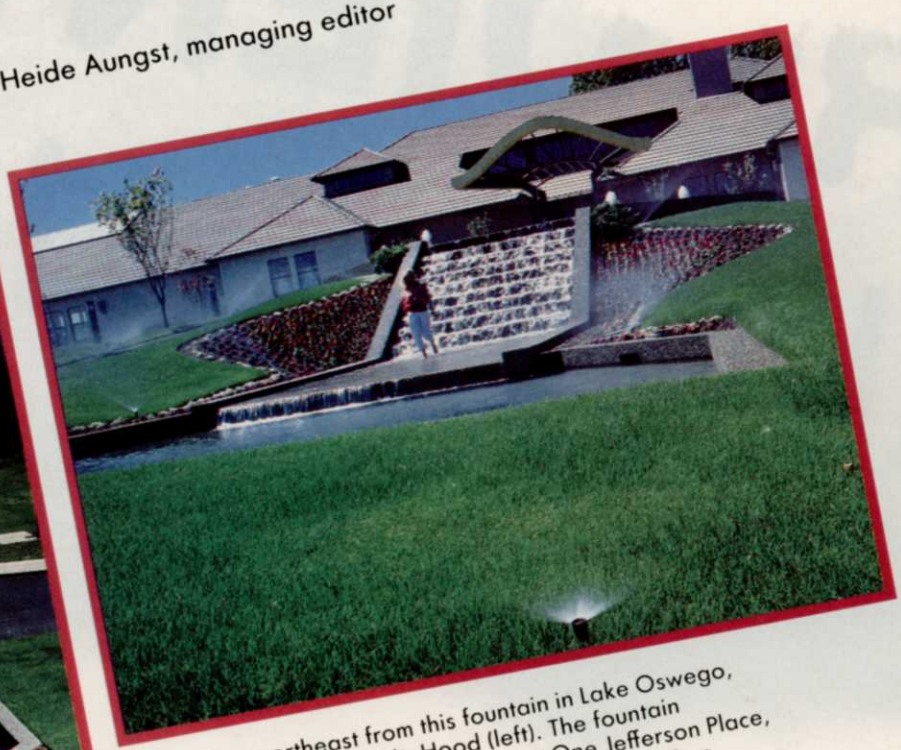
Circle No. 101 on Reader Inquiry Card

On Design

FOUNTAINS! SPOUTIN'

by Heide Aungst, managing editor



Looking northeast from this fountain in Lake Oswego, Ore., you can see Mt. Hood (left). The fountain highlights the recreation center at One Jefferson Place, an 168-unit apartment complex. Architect Tom Hamann of OTAK designed the fountain which was manufactured by Cascade Pools. The fountain uses 15 hp pumps which circulate the water from the top reservoir to the bottom. The 13 steps between the top and bottom pools go 1½ feet out and 1 foot down, creating the "white water" effect.

Rainbow Irrigation and Landscaping developed the 10 acres surrounding the complex. Another 10 acres is set for future development. Rainbow sodded the area around the fountain with a fescue, ryegrass and bluegrass mix from Oregon Turf Farms. It's mowed once a week at about two inches and irrigated as needed. The irrigation unit is Rainbow's new remote-controlled Rainmaster, which allows the landscape manager to turn on sprinklers while walking through the property. Flowers next to the fountain include red celosia, blue ageratums and white alyssum. Sergeant cherry trees line the sidewalks beside the fountain (left), while maples grow near the rec building (above). Completed in July 1987, the fountain cost about $34,000.

OTAK: Circle Number 191 on Reader Inquiry Card.
Rainbow Irrigation: Circle Number 192 on Reader Inquiry Card.
Cascade Pools: Circle Number 193 on Reader Inquiry Card.

Although the Four Seasons Hotel sits in the midst of urban L.A., the landscaping reflects a proper English tea garden. This garden ambiance was the vision of hotel developers Robert and Joseph Cohen. Lifescapes, Inc. of Newport Beach, worked with a $2.1 million budget to create the landscape. Lifescapes also developed the hardscaping, including the 400 square foot central fountain in the Wetherly gardens (above). The sculpture (right) in the fountain, designed by Irv Binder, adds a modern twist to the traditional gardens. Custom designed lamps and paving go with the gardens' classic flavor.

Lifescapes faced a challenge in choosing plant materials for the area. A parking garage runs under the entire site, reducing soil depth in gardens and making it difficult to use mature trees. To deal with these limitations, the company used raised planters where soil depth wasn't available. Turf adjacent to the fountain area is Marathon tall fescue. Trees in the Wetherly garden include Mediterranean fan palms, queen palms, saucer magnolias and weeping Chinese banyan. Pink seasonal plants, including impatiens, begonias and roses, color the base of the trees.

The hotel's porte cochere (top), or entranceway, displays a garden of queen palms, parlour palms and lilies. Lifescapes designed this smaller fountain following the same garden theme. The Four Seasons Hotel cost $110 million to complete and opened on April 16, 1987.

Lifescapes: Circle Number 194 on Reader Inquiry Card.

Bermudagrass: which variety is best?

by Tommy Nalls,
Southern Turf Nurseries

Bermudagrass is a popular turfgrass for a number of uses in the transition zone and points south. But which variety is best suited for use on fairways: Tifgreen 328 or Tifway 419?

The general consensus probably is that Tifway 419 is better for fairways than Tifgreen 328. In comparing characteristics—texture, mowing height and general uses—it is quite evident that Tifway 419 would be a logical choice for use on fairways.

Today, golf courses that have Tifgreen 328 fairways are quite successful, with very satisfied management. Tifgreen 328 will tolerate a closer cut than Tifway 419, therefore allowing a tighter lie of the ball.

Low handicappers would realize a challenge, where a high handicapper would experience total frustration.

One of the biggest advantages for having Tifgreen 328 from tee to green would be less chance for contamination of greens by trafficking of clippings from the fairways onto the greens.

Sod inventory would exist from the fairways and instant repairs could be made on tee tops when necessary. It is possible that areas on greens could, with all probability, be repaired with sod from the fairways, but it's highly unlikely that this might occur since the superintendent would want a greens-quality maintained sod.

Most of today's new golf courses are using Tifway 419 or the more improved Tifway 419 II for fairways. Again, in comparing the characteristics—texture, mowing height and uses—it is understandable why the choice for fairways is Tifway 419.

The possibility of contamination exists, but is probably unlikely because of the use of a buffer zone surrounding greens that allows for the cleaning of golf spikes before actually walking on the greens.

Tifway 419 and Tifgreen 328 have excellent regrowth and recovery from divots. However, Tifway 419 has a greater tolerance to traffic, therefore making Tifway 419 a more desirable choice for use on the fairway.

Actually, it boils down to one thing, and that is personal choice.

Tifgreen 328 bermudagrass - a warm season hybrid bermuda best suited for the warmer climates from the transition zone - South

Characteristics

1. low growing
2. rapidly spreading
3. disease-resistant hybrid
4. makes a dense weed-resistant turf

Texture

1. fine
2. makes excellent putting surface

Mowing Height

1. tolerates daily mowing at a height of 1/4 inch and overseeding with winter grass better than most bermudagrasses

Uses

1. been planted on more golf greens across the South and around the world than any other bermudagrass
2. been used on fairways, tees, and lawns; best considered for putting surfaces

Tifway 419 bermudagrass - a warm season hybrid bermuda best suited for the warmer climates from the transition zone - South.

Characteristics

1. darker green
2. requires less nitrogen to attain any degree of greeness.
3. makes a good dense weed-free sod
4. tolerates frost a little better and greens up early spring
5. tolerates golf cart traffic
6. more resistant to sod webworm and mole cricket attack than Tifgreen

Texture

1. possess stiffer leaves than Tifgreen
2. inferior to Tifgreen for use on putting surfaces

Mowing Height

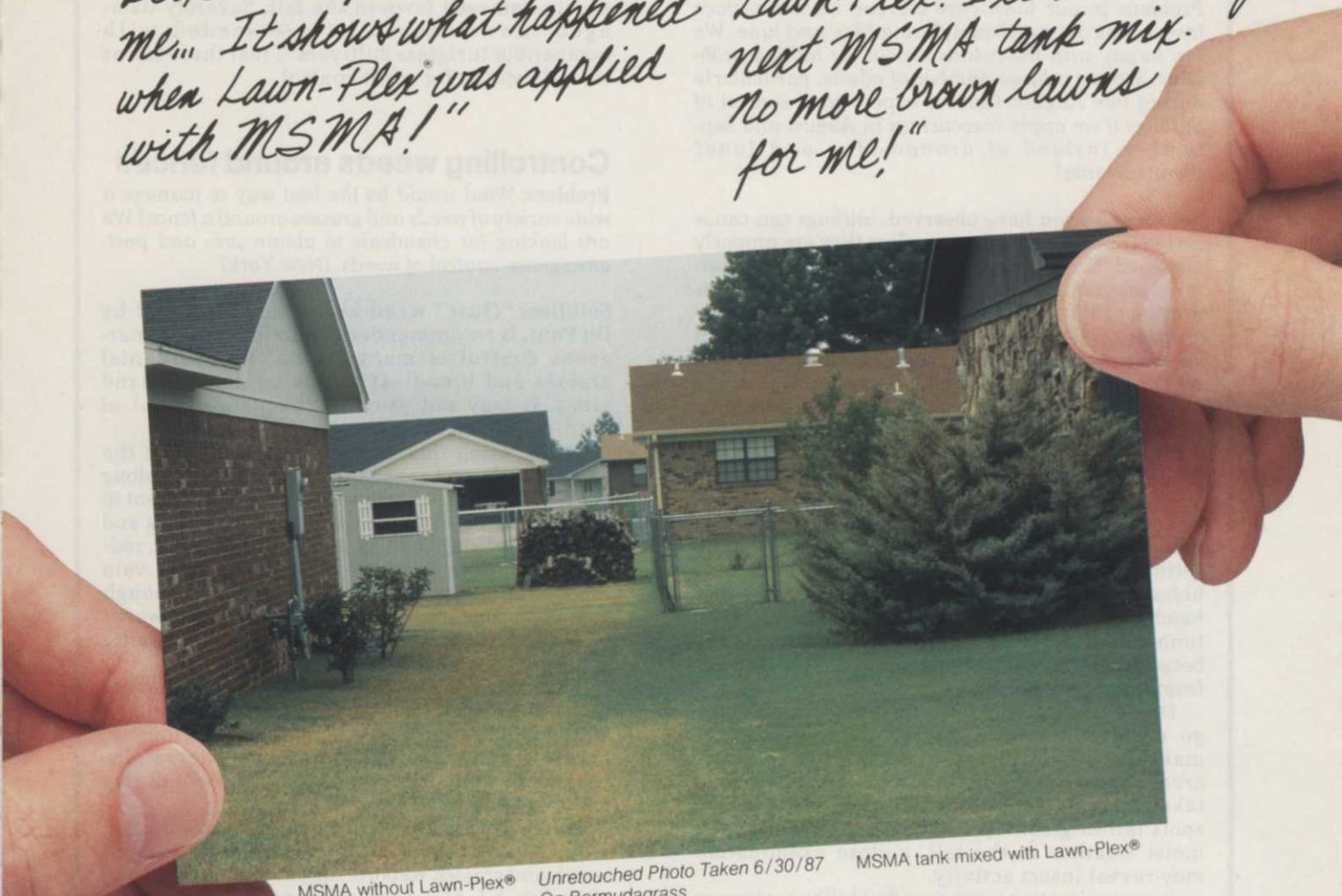
1. mow weekly at a height of 3/4 to 1 inch for fairways

Uses

1. widely used on golf courses for fairways and tees; superior to other bermudagrasses
2. also well adapted and widely used on football fields, soccer fields and polo fields

"Hey Bill.
Look at this photo RGB sent me... It shows what happened when Lawn-Plex® was applied with MSMA!"

"Wow, look at that green! I've heard great things about Lawn-Plex®. I'll use it in my next MSMA tank mix. No more brown lawns for me!"



MSMA without Lawn-Plex® *Unretouched Photo Taken 6/30/87 On Bermudagrass* MSMA tank mixed with Lawn-Plex®

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Circle No. 130 on Reader Inquiry Card

PROBLEM MANAGEMENT

by **Balakrishna Rao,** Ph.D.

Applying insecticides

Problem: *In our lawn care service, we use surface insect control insecticides during May and June. We are happy with the results except for billbug problems. We see a large number of adults, particularly during late August. Can we expect good control of billbugs if we apply insecticides in August and September instead of around May and June? (Pennsylvania)*

Solution: As you have observed, billbugs can cause serious damage to turfgrass unless they are properly managed. For best results, as with any pest management program, it is important to have proper identification of the pest, proper pesticides, methodology and timing. If these are not followed, it may result in variable performance and might explain the reasons why you are having problems in managing the billbugs.

In addition, it is also important to know the life cycle of the billbug in order to provide pesticide programs during the vulnerable stage of development. The following discussion might be helpful in understanding and managing the problem. Billbugs overwinter as adults and become active in early spring. They feed on turf and lay eggs in feeding holes on tillers from mid-May through July. The eggs hatch in a week or so, and the young, legless larvae tunnel through the tiller and crowns and eventually become soil-inhabiting pests, feeding on grass roots from June through August.

During the feeding activity, their presence may go undetected because the damage will be masked by drought symptoms, often in many areas. These drought symptoms are often mistaken for moisture stress. Therefore, if the brown spots fail to green up with the onset of cool and moist weather in the fall, a close examination may reveal insect activity.

In some situations, one may find billbugs alone or with infestations of chinch bugs or sod webworms. It is not uncommon to find all three of these pests in a brown and declining lawn.

In answer to your question, August is not a preferred time for insecticide application for adult billbug control, because the majority of the adults might not have emerged or some of them might be moving to overwintering sites in nearby plant materials during this period. Because of the lack of information about fall treatment for billbugs, I suggest that you try fall treatments on a small test plot first to learn more about the effectiveness. Reports from Ohio State suggest that a mid-April application of insecticide gives best billbug control. The objective is to control the egg-laying population to reduce any future generations.

The second-best time would be directed against the larvae when they are active from June through August. Remember that larvae management is difficult because they are in a protected site in the stems, or may have moved into the soil, becoming soil-inhabiting pests. This would explain why you were having variable results with your program. Preferably, make a note of the severely-damaged lawn in the fall. Severely-damaged lawns should be overseeded with compatible turfgrass cultivars. Treat these lawns in early spring for adult control.

Controlling weeds around fences

Problem: *What would be the best way to manage a wide variety of weeds and grasses around a fence? We are looking for chemicals to obtain pre- and post-emergence control of weeds. (New York)*

Solution: "Oust" weed killer, manufactured by Du Pont, is recommended for pre- and post-emergence control of many annual and perennial grasses and broadleaf weeds on non-cropland areas. It may not provide adequate control of hard-to-kill perennials.

When using this product, make sure that the spray drift doesn't contact any desirable plants along the fence. Consider using some drift control agent to minimize drift. Oust is absorbed by both roots and foliage of weeds, resulting in growth reduction, reddish-purplish coloration, chlorosis, necrosis, vein discoloration and death of terminals. Although symptoms may start showing up two to three weeks after application, it may take four to six weeks after application for final effect.

Be careful not to use Oust where there is potential for desirable plant roots to come in contact with the treatment. Oust can be applied at any time of the year except when the ground is frozen. For better results, use this as a pre-emergent or post-emergent during early stages of weed growth.

Another choice is to tank-mix Elanco's Surflan with Monsanto's Roundup to deal with difficult weeds and grasses. Reports suggest that mixing 3 ozs. of Surflan A.S. plus 3 ozs. of Roundup in 1 gal. water to cover 1,000 sq. ft. would provide six to eight months' control of annual weeds and grasses. Make sure to avoid any spray drift coming in contact with desirable plants when using this combination tank mix. Read and follow label specifications for better results.

Balakrishna Rao is Director of Lawn Care Technical Resources for The Davey Tree Co., Kent, Ohio.

Questions should be mailed to Problem Management, Landscape Management, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2-3 months for an answer to appear in the magazine.

Two years and two-hundred thousand engines later the other guys here and overseas have re-invented Tecumseh's Over Head Valve, OVM120 lawn tractor and riding mower engine. Well, we didn't exactly keep it a secret. We told anyone who listened about its superior performance. We couldn't refrain from bragging a little about our Ultra-Balance vibration control, the long life cast iron cylinder sleeve and pressure pump bearing lubrication. We did mention the premium electronic ignition a time or two. And the OVM's full twelve horsepower and high torque characteristics plus the superior valve system. We printed thousands of cutaway engine pictures and exposed our inner engine features. National magazines gave the public every intimate detail of the OVM's superior design. So it's not surprising that the competition is now announcing, one after the other, new OHV engines that they hope to make in 1988 or '89. Tecumseh's OHV engines are way out ahead of the pack with proven design and solid manufacturing techniques. Tecumseh . . . producing superior OHV engines in North America since 1967.

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TECUMSEH ENGINES . . . *Better. Right from the start*

Circle No. 264 on Reader Inquiry Card

Nematodes: new in biological insect control

by Harry Niemczyk, Ph.D.

The Aug. 28, 1987 issue of *The Wall Street Journal* contained a front-page article entitled "Bug-Eating Nematodes Hold Promise as Natural Pesticides." Five papers dealing with these entomogenous (insect-killing) nematodes were presented before the Division of Environmental Chemistry of the American Chemical Society. That's the kind of attention these nematodes have been receiving lately!

Spectrum of activity

Two genera, *Steinernema* and *Heterorhabditis*, show the most promise. They occur naturally all over the world, are known to be destructive to hundreds of species of harmful insects and yet are not harmful to plants, humans, animals, birds or earthworms.

Nematodes prey on insects that live underground during some stage in their life cycles. They actually seek out their prey, entering through natural openings and releasing pathogenic bacteria into the blood.

Typically, the insect dies within 48 hours.

The nematodes breed inside their host, depositing eggs that produce another generation to seek out and destroy other hosts such as grubs, billbug larvae, sod webworms, cutworms and mole crickets, to name a few.

Nematodes are applied by adding them to water and applying them as spray over the infested area.

Table 1. Summary of the field trials (1984-1986) with *Steinernema feltiae (sf), Heterorhabditis heliothidis* (Hh) and a standard insecticide, against selected turfgrass insects.[a]

Nematode: Concentration (billion/acre)	Number of tests	% Control range	Average
Japanese beetles, *Popillia japonica*			
Hh: 1.0-5.0	18	30-91	64
Sf: 1.0-5.0	12	30-72	53
OFTANOL®	7	39-97	69
Northern Masked Chafer, *Cyclocephala borealis*			
Hh: 1.0-5.0	5	42-95	74
Sf: 1.0-5.0	4	41-61	55
OFTANOL®	3	47-99	73
White Grubs, *Phyllophaga* spp.			
Hh: 0.4-5.0	3	48-81	73
Sf: 0.8-5.0	3	39-62	53
OFTANOL®	2	35-46	40
Mole crickets, *Scapteriscus* spp.			
Hh: 1.0-5.0	3	3-12	8
Sf: 1.0-5.0	5	42-73	59
OFTANOL®	3	52-79	65
Cutworms (Noctuidae)			
Hh: 0.5-5.0	2	52-100	92
Sf: 0.5-5.0	2	38-96	74
DURSBAN®	1	88-100	96

[a] Taken from Georgis, R. 1987. Nematodes for biological control of urban insects. Preprint of Paper Presented at 194th Nat. Meet. Amer. Chem. Soc. Div. Environ. Chem. 27(2):816-821.

Persistance

The infective stage of the nematodes, formed in the body of the dead host insect, leave the host and are able to persist in moist soil for months without infesting a host. They are highly resistant to chemicals and natural toxins in the soil. Their movement and search activity is optimal in moist, sandy soils.

Persistance can be reduced in dry soils, during extreme temperatures and in the presence of toxic pesticides, pathogens and predators.

Application

Nematodes are applied by simply adding them to water in a conventional spray system and applying them as a spray over the infested area. As the nematodes are highly resistant to most chemicals, a well-rinsed sprayer should be adequate. Post-treatment irrigation to prevent dessication and facilitate movement into the soil is needed.

Production, shipment

Biosis, Inc. of Palo Alto, Calif. a biotechnology company dedicated to the development of biological controls as an alternative to chemical pesticides, produces and ships nematodes all over the world.

According to Dr. Ramon Georgis, senior entomologist at Biosis, the nematodes are mass-reared on plastic foam soaked in a pork kidney/beef fat homogenate. Commercial production has not yet been achieved, but Biosis is working with scientists of the Alberta (Canada) Research Council to produce the nematodes in 40,000-liter tanks.

Large-scale shipment and storage are problems to be solved before full commercialization. Biosis has developed a process for dessicating the nematodes that appears promising.

Effectiveness

Field trials against a wide range of soil-inhabiting insect pests of turfgrasses have shown this method of biological control has the potential to be a viable alternative to chemicals. Table 1 reviews some of the field trial results. **LM**

NEW FOR '88

The Ultimate, All-In-One Landscape Implement!

The unique, new Dakota Hand is designed to be a do-anything, go-anywhere landscape tool. The main parts being a towable, bucket or 3-point mount tree transplanter, a boom sprayer, a log splitter, a dump box, and a spreader. Options include water pump, hydraulic pump, jack hammer, hydraulic power pack, and many more.

The Dakota Hand is made specifically for resorts, golf courses, apartment complexes, hobby farms, parks, nursuries, municipal and state facilities, and for rentals, landscapers or soil conservation.

TOWABLE TRANSPLANTER

SPRAYER

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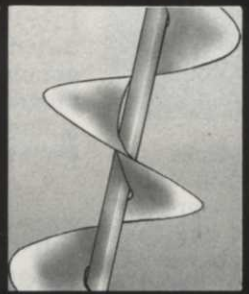

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Dealer Inquiries Welcome *Product Demonstration Available on Video*

Circle No. 263 on Reader Inquiry Card

Pro Showcase:

The first Pro Show is being held this month in Dallas, Tex. As a service to Pro Show attendees, sponsors and the readership in general, LANDSCAPE MANAGEMENT devotes this month's "Products" section to those companies exhibiting at the Pro Show. This list consists of 1987 model products and 1988 models which will be revealed officially at the Pro Show. If you're attending, make sure to visit these companies' booths.

Heavy duty blower meets lawn management needs

The BL-1100 I.C. wheeled blower from Billy Goat Industries provides 11 hp of blowing power. It features an operator hand-controlled "Gust Adjuster" which allows the operator to direct

the flow of air from side to side.

Adjustment of the remote control lever can direct debris from ground zero to 50 degrees for greater placement control. Varying the engine speed also aids control.

The BL-1100 I.C. is available with a Briggs & Stratton or Honda engine. The blower also has a tote box for carrying tools or larger debris. Padded handles and six shock mounts reduce vibration at high engine speeds for operator comfort.

Circle No. 195 on Reader Inquiry Card

Hoe attachments approved by tractor manufacturer

The Kubota Tractor Corp. has approved Bradco 8MD2 eight-foot and 9HD nine-foot hoe attachments manufactured by American Trencher Inc. for Kubota L Series tractors.

The backhoes have rigid frame mount with four-point quick-attach features for the backhoe. The frame can remain on the tractor when the hoe is removed and doesn't interfere with the tractor three-point hitch or underdeck mower attachments.

Circle No. 196 on Reader Inquiry Card

New attachments broaden mower's cutting versatility

A wider cutting swath and smoother ride are the results of two new attachements for the Gravely Pro out-front mower: a 60-inch mowing deck and a second riding sulky.

The cutting deck is rounded for improved trimming and is equipped with anti-scalping rollers for the walk-behind, out-front Pro. It improves the mowing width by 10 inches

over previously-available decks.

The new riding sulky has a plate behind the power unit to prevent jackknifing. It has a padded, high back seat and is easily attachable or detachable. The new sulky is offered in addition to the Castor Wheel sulky, already available.

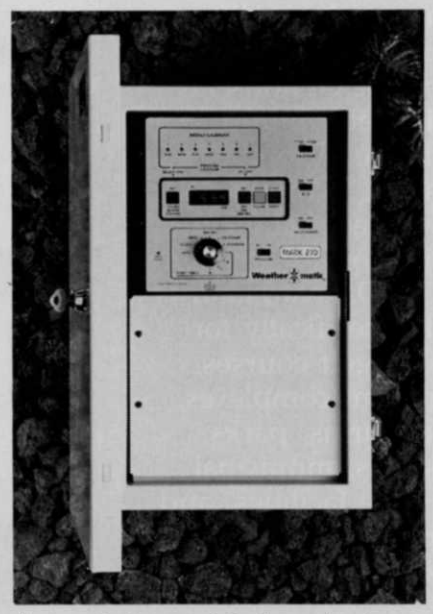
The 1988 Pro units will also have a choice of five power units ranging from 12 hp to 16 hp.

Circle No. 197 on Reader Inquiry Card

Precise irrigation easy with programmable controllers

The Mark 200 series of micro-processor controllers from Weathermatic offers 12, 18, 24 or 30 stations in a heavy-duty housing. The high-intensity LED display gives outdoor daytime visibility.

User training is minimal because the selector switch and four large programming buttons are cleary labeled. A six- or seven-day calendar allows for programming even-, odd- or third-



day watering and independent programs with four daily start times each.

A separate test program can run all P1 or P2 stations for two minutes without disrupting previously programmed duration times. The test program skips stations without programmed watering times.

Circle No. 198 on Reader Inquiry Card

Tilt-deck trailer hustles when loading or unloading

Excel Industries' new Tilt-Deck Trailer brings to the Hustler line a hydraulic trailer that tilts down and locks into place for easy reloading.

The inside floor space measures more than 82 inches wide by 144 long, allowing for transportation of numerous types of turf and construction equipment.

Its 12-inch-high sides allow the trailer to be used for utility purposes such as hauling clippings or nursery stock when not transporting equip-

While nobody was looking, Fairmont developed a Limb Lopper power pack that lets you trim branches quietly without being tied to your truck.

A hundred feet or a hundred yards. Distances no longer matter with the quiet, self-contained mobile hydraulic power pack from Fairmont.

This compact, highly portable unit weighs just 53 pounds. It supplements the hydraulic outlets on your truck to let you do ground and ladder trimming beyond your truck's normal 25-foot hose limit. Best of all, it works with the tools that you're already using in your basket.

The practical benefits of Limb Lopper's mobile power pack are obvious. No longer do you have to equip each truck with manual and gasoline-powered tools for jobs that a basket can't reach. One set of quiet, efficient hydraulic tools takes care of every tree-trimming job.

Many of the big commercial tree-trimming companies have already switched to Limb Lopper chain saws, circular saws, and shade-tree pruners. It's easy for you to do the same. Just phone or visit your nearest member of Fairmont's trained, dependable Limb Lopper dealer network. Or write: Fairmont Hydraulics, a division of Fairmont Railway Motors, Bldg. B, Suite 408, 800 Roosevelt Road, Glen Ellyn, IL 60137. Phone (312) 790-1690.

Limb Lopper

FAIRMONT HYDRAULICS

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Circle No. 115 on Reader Inquiry Card

ment. The trailer's two-inch ball hitch has a 5,000-lb. capacity.

Circle No. 199 on Reader Inquiry Card

Diesel engine injects power into front-cut mower

A Yanmar three-cylinder diesel engine provides Yazoo Manufacturing's new Eagle V with 27.5 hp for heavy-

duty cutting jobs. Hydrostatic transmission, PTO drive system, power steering and individual wheel brakes provide smooth operation.

The Eagle V is available with 60- or 72-inch cutting sections or and open or ROPS cab.

Circle No. 200 on Reader Inquiry Card

Brush frame, shielding improved on lawn sweeper

Sweepster redesigned the L4800 sweeper with an angle-iron type frame incorporating a hood that covers the brush drive chain. The redesign eliminates the plastic shielding and chain idler needed on older models.

Other improved features include a gearbox drive from the front tractor

PTO, an electric lift, a four-foot wide, two-foot diameter brush and custom built mounting frames so the L4800 will fit most lawn and garden tractors.

The sweeper sweeps at a 30 degree angle to the right. Manual and hydraulic sweep angle adjustment controls are optional. The L4800 can be used for snow and thatch removal, leaf and pavement sweeping and dirt clean-up, among other things.

Circle No. 201 on Reader Inquiry Card

Overhead valve design brought to small engines

Briggs & Stratton's new Vanguard line brings overhead valve design to en-

gines ranging from 4.5 hp to 14 hp.

The five engines are the 14 and 12.5 hp V-twins, 12.5 and 4.5 hp single-cylinder verticle shaft models (available next spring) and the 8 hp single-cylinder horizontal shaft (available next fall).

The OHV design gives full engine output with lower fuel consumption. Each Vanguard engine has cast-iron cylinder sleeves, Magnetron electronic ignition, heavy duty replaceable bearings, permanent mold piston and conrod, and heavy ribbed cylinder block.

Circle No. 202 on Reader Inquiry Card

Lawn vacuum cart cover has all-steel construction

E-Z Rake's top-of-the-line lawn vacuum, the Model 46, now comes

equipped with an all-steel cart cover. It features a full length dust tunnel and is easier to clean.

The Model 46 comes with cart, side extensions, cover, vacuum unit and engine, with a 5.5 hp vacuum power plant. A single pin provides attachment to a tractor.

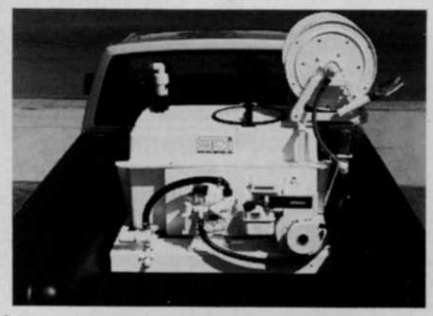
The Model 46 has a capacity of 32 to 35 bushels, the cart a 1000-lb. capacity. Connecting hoses are six-inch PVC, and the 18-gauge steel side extensions add 21 inches of depth to the cart.

Circle No. 203 on Reader Inquiry Card

Three new spray units will debut at Pro Show

Spraying Devices Inc. will introduce three new multi-purpose sprayers at the Pro Show in Dallas this month. The style-molded fiberglass tanks—50 (shown), 100 and 160 gallon sizes—have leakproof lids and self-lubricating mechanical agitators.

Pump choices include 3 and 10 gpm twin-piston or 9.5 and 14 gpm twin-diaphragm type. The new models bring to 60 the number available from the company, ranging in size from 50 to 1000 gallons.



Circle No. 204 on Reader Inquiry Card

Interchangeable tools expand trimmer uses

The Panther model 2840 is the first trimmer/brush cutter in the 2800 series Expand-It system from HMC/The Green Machine.

Expand-it tools are interchangeable, attached easily to a single 24.1 cc,

TRY TO SEE WINTER THIS WAY

While your competitors are locking up their lawn equipment for the winter months, you can be producing income with yours. Use your equipment to apply Great Salt Lake Minerals & Chemicals deicing products, **QWIKSALT® + PCI®** corrosion control polymer and **FREEZGARD™ + PCI®**, during the winter. These products are more effective and less corrosive than other deicing products. You can keep roads and parking lots clear of ice and snow, and put money in your pocket while your competition is hibernating. Interested? Simply call (801) 731-3100 for the facts.

Circle No. 116 on Reader Inquiry Card

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1.3 hp power source using a single knob on the tool shaft.

Tools beside a trimmer include a weeder-cultivator, blower and snow thrower and an edger tool that will be available next spring.

The model 2840 is lightweight with a 47.8-inch shaft for increased reach and comes with a debris and blade guard for safety.

Circle No. 205 on Reader Inquiry Card

Steering control system gives zero-turning radius

Middlesworth Engineering and Manufacturing has developed an optional steering-wheel-controlled zero turning radius system which is used in place of standard lever controls on

any of the company's C series outfront mowers.

A foot pedal controls ground speed and direction, with the steering wheel increasing or decreasing individual wheel speed to provide steering.

Circle No. 206 on Reader Inquiry Card

High-efficiency engine line meets commercial needs

Wisconsin Robin engines from Teledyne Total Power are designed to meet lawn and garden needs. The company offers a high-performance two-cycle engine that is compact and

lightweight. Overhead valve models offer durability with economical operation in low to medium horsepower ranges, including new single-cylinder overhead valve models.

Each model has solid state electronic ignition and a solid state oil warning system to prevent damage from insufficient lubrication.

Every Wisconsin Robin engine for power lawn and garden equipment is covered by a two-year limited warranty and a five-year warranty on the ignition system.

Circle No. 207 on Reader Inquiry Card

Reciprocating aerator cores with vertical action

The Ryan Lawnaire 28, a self-propelled walk-behind aerator has reciprocating, crankshaft-mounted tine arms, allowing vertical coring action similar to larger models, giving a cleaner hole.

The Lawnaire 28 cores a swath 28 inches wide, covering 24,000 sq.ft. per hour. Three-quarter-inch tines penetrate 2½ inches with a core pattern of 3½ by 5 inches. The machine is 34 inches wide.

Tricycle front wheel and ground drive dog clutch can disengage to make rear drive wheels free-wheeling. The unit also has zero turning radius when aerating.

An over-center, lever-operated master clutch engages the drive wheels and reciprocating tines simultaneously. Releasing the lever stops both the tine arms and drive wheels.

The 7 hp engine is fed by a 1.1-gal. gas tank.

Circle No. 208 on Reader Inquiry Card

Out-front rotary mowers cut up to 26 acres daily

The 17 hp diesel C417D (pictured) and 21 hp gas C420G out-front rotary mowers from Jacobsen Division of Textron feature three-cylinder liquid-cooled Kubota engines. The four-wheel commercial mowers have a 72-inch deep tunnel deck that can handle 26 acres of grass per day with cutting heights from one to four inches.

The tractors feature power rear-wheel steering, wide tires and hydraulic front-wheel traction drive

with a top speed of 9 mph. Hydraulic lift on the front-mounted implements and high ground clearance give curb-climbing ability.

Mechanical PTO drive is controlled through a heavy-duty electric clutch mounted on the engine flywheel. Jacobsen makes a full line of attachments for the tractors enabling year-round use.

Circle No. 209 on Reader Inquiry Card

Brush, limb chopper at competitive price

Just introduced from Promark Products, the model 400 Brush and Limb Chopper is able to handle the toughest brush and limb jobs at a very competitive price.

Promark's 400 chipper uses a 90-degree in-feed angle, allowing both knives to cut the full diameter of the limb. The 400 chipper provides a fixed hydraulic feed rate of 152 feet per minute.

The safety bar on each side and

over the top can instantly start, stop or change direction of the feed rollers. The feed table is at the rear of the chipper to keep operators away from moving parts. The 400 can handle limbs as large as 12 inches in diameter.

Circle No. 210 on Reader Inquiry Card

Deep root injector feeds trees and ornamentals

The Tree and Ornamental Feeder from Lesco Inc., is designed for deep

One tree doesn't make a Woods

Nor does just one product. That's why when Woods introduced the world's first successful tractor powered rotary shredder back in 1947, they didn't rest on their laurels. Instead, they continued to apply outstanding engineering expertise producing equipment packed with performance, reliability and value. The results: a line-up of over 50 different products including mowers, cutters, rear scraper blades, backhoes and specialty machines. The best that money can buy.

Find out all about these proven performers. Send for your free copy of Woods' latest Full Line Catalog today.

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Circle No. 147 on Reader Inquiry Card

root injection of water-soluble fertilizers, insecticides and iron products.

The feeder operates with high volume equipment with 150-200 psi. The feeder fits on 1/2-inch hose and injects nutrients or insecticides into the plant's root zone.

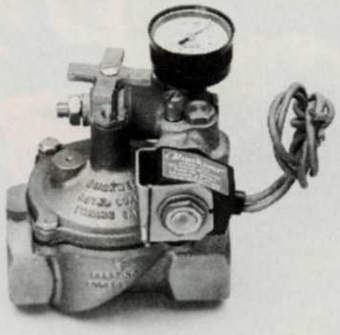
The hole at the end of the replaceable tip permits quick penetration of the turf. A splash plate protects the operator, who can operate the unit either right- or left-footed.

Tip, shaft and handle are stainless steel, with rubber grips on the handle for comfort.

Circle No. 211 on Reader Inquiry Card

Brass valves regulate pressure on irrigation

Buckner's 20120 (pictured) and 20130 Series pressure regulating brass valves reduce and regulate pressures in commercial and golf course irrigation systems for precise application control.



The valves have no side-mounted external regulators. All porting is designed internally within a bronze casting that fits on top of the valve.

A manual operator that features no external bleeding plus pressure regulation allows installers to set the downstream pressure at the valve without electric power.

Valves are available in 3/4-inch through 3-inch sizes with a field stainless pressure gauge mounted on each valve in the 20120 Series or a Schrader Valve from remote pressure settings on the 20130 Series. Outlet pressures can be set from 10 to 100 psi with flows as low as 1 gpm.

Circle No. 212 on Reader Inquiry Card

Natural turf product solves turf problems, feeds grass

Turf Restore from the Ringer Corp. is an all-natural problem solver for golf courses, resort and residential turf managers and independent lawn care operators.

Turf Restore eliminates conditions in which patch diseases occur, reducing thatch buildup and feeding turf with natural slow-release fertilizers.

Turf Restore uses soil organisms and natural enzymes to eliminate pathogens causing fusarium, necrotic ring spot, brown patch and other diseases. It also helps break down thatch by speeding natural decomposition.

Take Aim on Crabgrass and Goosegrass with

ACCLAIM!® 1EC Herbicide Brings High Technology Down to Earth!

Acclaim is the only truly selective postemergence herbicide that eliminates warm season grassy weeds in cool season turf grasses.

New Chemistry for Superior Performance!

Acclaim translocates from the site of contact to the heart of weed growth – cleanly decomposing the entire weed after 21 days. Acclaim has no residual soil effect, and avoids the turf injury problems associated with other postemergence herbicides.

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Circle No. 213 on Reader Inquiry Card

Walk-behind is company's first commercial mower

Honda enters the commercial mower market this year with the HRA216SXA walk-behind lawn mower. The unit is self-propelled, with a 5.5 hp overhead valve engine, cutting a 21-inch swath.

It is equipped with a two-speed transmission with a higher ground speed to shorten mowing time. Honda's Roto-Stop system, which stops the blade but not the engine with the release of a handle, is also standard.

The HRA216SXA has a heavy-duty steel deck, large diameter steel wheels with sealed ball bearings and a five-interval adjustable cutting height ranging fom one to three inches. The rear-mount grass catcher holds 2.1 bushels.

Circle No. 214 on Reader Inquiry Card

Steep slopes no problem with powerful new mower

The Super Slopemaster from Kut-Kwick Corp. is designed to safely and effciently mow steep slopes as well as flat areas with heavy-duty 34 hp gasoline or 35 hp

diesel water-cooled engines.

Both engines have patented safety and performance features of existing Slopemaster series models.

Circle No. 215 on Reader Inquiry Card

Rider comes equipped with dual hydro axle

Walker Manufacturing has introduced a gear case axle drive developed for the Walker mower.

Until now, dual hydrostatic mowers have used chain drive or hydraulic wheel motors to independently drive wheels; both approaches require maintenance and may cause downtime.

With the new all-gear axle, the hy-

1EC HERBICIDE

One Application Does It!

When applied thoroughly to non-drought-stressed grassy weeds from 3 leaves to 3 tillers in size, chances are once is all you'll need!

Apply to fine or tall fescue, perennial ryegrass, and Kentucky bluegrass.

Take Aim on crabgrass, goosegrass, barnyard grass, foxtail species, Panicum species and Johnson grass.

Reseeding and Mowing Convenience!

Fescues and ryegrass can be overseeded immediately following Acclaim application. Bluegrass can be overseeded after 21 days. And mowing just 24 hours after Acclaim application won't reduce efficacy.

Great Turf Deserves Acclaim!

As a professional, you take pride in having and maintaining lush green turf throughout the season. Acclaim can help you get the acclaim you deserve!

For information, contact your distributor or your local Hoechst-Roussel Agri-Vet Company representative.

Hoechst Roussel

Circle No. 118 on Reader Inquiry Card

10 reasons why you should ask for a Continental R-Series engine

High performance, long life design — that's what the Continental R-Series liquid-cooled engines from Teledyne Total Power can offer you.

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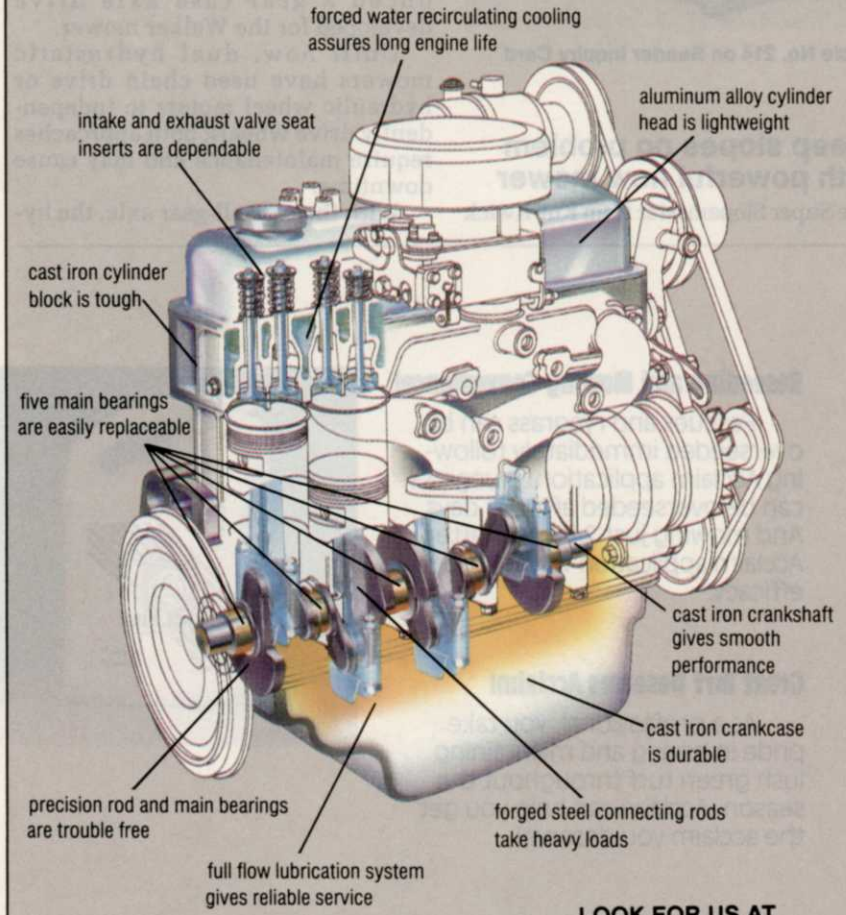
forced water recirculating cooling assures long engine life
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R-11/14

Circle No. 139 on Reader Inquiry Card

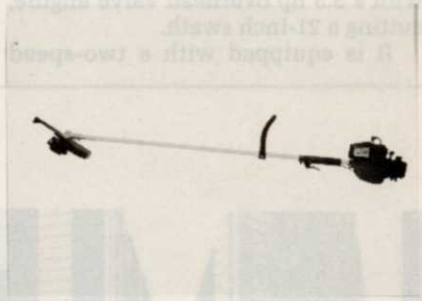
drostatic transmission bolts directly to the gear case, providing a sealed drive that is simple, rugged and maintenance-free. The gear drive will be installed on the 1988 commercial model Walker mower. It will be optional on the standard model.

Circle No. 216 on Reader Inquiry Card

More powerful line trimmer tackles weeds and brush

The XR-125 straight shaft gas-powered trimmer-brushcutter from Weed Eater features a two-cycle, 22.2cc power head for tough jobs.

The 14-pound trimmer also features an 18-inch cutting width, a solid steel straight drive shaft with gear reduction, padded shoulder strap for comfort and an automatic line advance. An optional eight-inch brush blade kit is also available.



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Lawn Vac collector is rear-mounted

Mower operators can now pick up debris and trimmings while mowing without sacrificing zero-turning ra-

Agile as a cat

Jacobsen Turfcat II gives you all the moves for quality cutting.

Get the agile machine with the moves of a cat. Get a fast-moving, clean-cutting Jacobsen Turfcat II*.

Featuring smooth power steering, four-wheel wide-track stability, and hydrostatic traction. A touch with your right foot delivers variable speed for precise maneuverability . . . the left pedal raises or lowers implements hydraulically for easy transport.

The heart of the Turfcat II is a rugged 23-hp, 51.6 cu. in., 4-cylinder, liquid-cooled Continental gasoline engine. And our special dual-screened radiator assures cleaner, cooler engine operation. With a warning system to alert the operator when screens need cleaning—for longer engine life.

Superior rotary-deck performance delivers a quality cut on all types of turf. And, the Turfcat's mechanical or hydraulic PTO drive, with a wide implement selection, gives you a year 'round system.

For speed and maneuverability, pounce on the Turfcat II. It's agile as a cat.

Jacobsen Division of Textron Inc.,
1721 Packard Avenue,
Racine, WI 53403.

*Choose from five models, diesel and gasoline, with three-wheel or four-wheel configurations and a variety of deck sizes.

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TEXTRON
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Engineered from the ground up.

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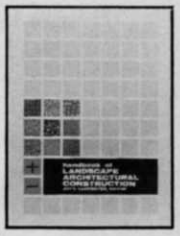

345 - COST DATA FOR LANDSCAPE CONSTRUCTION 1987
Kathleen W. Kerr, Editor
An updated unit cost data reference for designers and cost estimators. Developed to fill the tremendous need for detailed landscape construction cost data. Laid out in easy-to-use CSI format. Annual
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edited by Jot Carpenter
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by Leroy Hannebaum
Geared for the commercial designer/salesperson, this is a one-stop guide to the landscape design process. Covers the entire highly competitive field including design analysis techniques, pointers on land forms, specialized business landscaping methods, environmental design guidelines, specifications, estimations, bids. **$33.95**

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by Leroy Hannebaum
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An annotated photographic guide to the design qualities of ornamental plants and their aesthetic and functional use in landscape designing. Over 600 trees, shrubs, vines, ground covers and turfgrasses are described in nontechnical language. Over 1900 photographs. Provides a basis for selecting the best plant materials for any particular use in landscape design. Contains detailed indexes that provide quick reference to particular design qualities and growing conditions. **$55.00**

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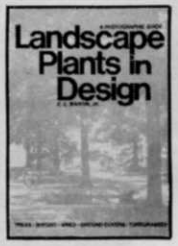
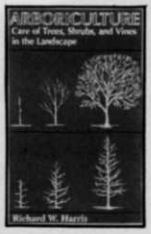
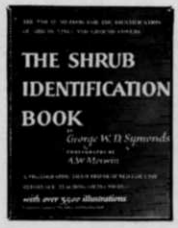
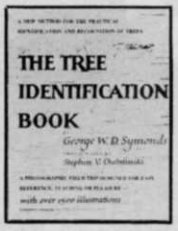
by Gregory M. Pierceall
An excellent reference for individuals involved in the design and development of plantings and constructed features for residential sites. Illustrations and actual residential case study examples are used to communicate graphic, planning and design concepts which are the focus of this text. **$36.95**









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Pictorial key to identify shrubs. Contains more than 3,500 illustrations to check specimens. Popular and botanical names are given for each shrub and handy index tabs for quick reference.
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by George Symonds
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by Partyka, Joyner, Rimelspach, Carver
Illustrates plant identification characteristics. Organized in two basic sections: plant identification and plant disorders, this text utilizes 430 color photos, 430 line drawings and 45 black and white photos to simplify identification.
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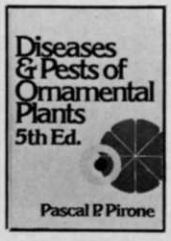

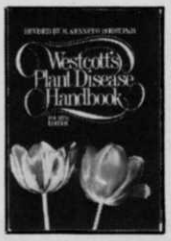

410 - DISEASES & PESTS OF ORNAMENTAL PLANTS
by Pascal Pirone
This standard reference discusses diagnosis and treatment of diseases and organisms affecting nearly 500 varieties of ornamental plants grown outdoors, under glass or in the home. Easy to understand explanations of when and how to use the most effective fungicides, insecticides and other control methods. **$34.95**

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Essential information for identifying more than 650 insect pests and the injuries they cause. More than 200 color illustrations. **$49.50**

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This fourth edition offers professionals the latest diagnostic and disease control information. Plant entries designed to simplify diagnosis, plus background on the classification of plant pathogens. This handbook gives a specific description of each disease, susceptible plants, specific symptoms of the disease, reported locations and control measures for each disease and their side effects.
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010 - ADVANCES IN TURFGRASS PATHOLOGY
by Joyner and Larsen
Leading U.S. turf pathologists report on turfgrass diseases, pythium blight, snow molds, fairy rings, leaf spot of Kentucky bluegrass in Minnesota, initial and field fungicide screening, turfgrass disease resistance, etc. Contains new ideas on how to combat turfgrass problems. **$27.95**

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by James Beard
Written by an eminent turfgrass researcher, this USGA sponsored text is an ideal reference and "how to" guide. Details all phases of golf course design and construction, turf management, course administration, irrigation, equipment and disease and pest control. Fully illustrated. **$52.75**

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by Howard Sprague
Practical guide to turf care under both healthy and poor turf conditions. Chapters cover turf in cooler and warmer regions, fertilizer use, regular turf care, weed and disease control and special turf problems. Useful seasonal schedules for management of turf areas. **$19.00**

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by Daniel and Freeborg
ENTIRELY UPDATED. A practical guide for the turf practitioner. Chapters on grasses, growth regulators and diseases have had extensive modification. Innovations resulting from research and practice have been added to reflect the current techniques available for turf managers. Offers recommendations for effective turf protection through integrated pest management. Included are alternate plans for providing and improving safe, uniform turfgrass for sports fields. Outline format plus newly added index make this new edition easier to use and a more comprehensive approach to turfgrass science. **$32.95**

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Comprehensive basic text and reference source used in many leading university turf programs. Includes findings of current research compiled from more than 12,000 sources. **$34.95**

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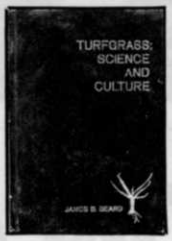
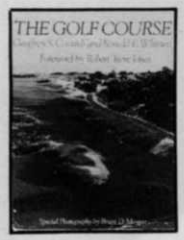
A guidebook for engineers, architects, designers and contractors. Keeps pace with the latest developments in turf and landscape irrigation. Specific chapters devoted to rotary sprinkler design systems. Golf course design systems and expanded engineering and reference material. **$23.95**





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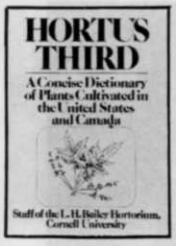
by Cornish and Whitten
The first book ever to give the art of golf course design its due, and golf course architects the credit and recognition they deserve. 320 pages and 150 color and black and white photographs. Traces the history and evolution of the golf course, analyzes the great courses, shows how they were designed and constructed. **$35.00**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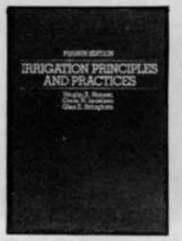

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by Hansen, Israelsen, Stringham
A new fourth edition of this highly successful textbook presents essential concepts pertaining to water conveyance, application, storage in the soil and use by plants. Basic underlying principles that govern irrigation practices are stressed. **$57.00**

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by Truman, Bennett, Butts
Provides a sound basis for studying the technical aspects of pest control. Covers pesticides, safety, health and environmental concerns, equipment, flies and mosquitos, rats and mice, birds and much more. **$35.00**

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dius. The Lawn Vac Collector introduced by Magic Circle Corp. is designed for use with a 44-gallon collector. The lever-operated collector is available with either a rear-mount or deck-mount blower. The high impact plastic top has an easy operating lift which permits simple removal of the collector.

Circle No. 218 on Reader Inquiry Card

Grasshopper K-series for large landscapes

The Grasshopper K-series of mowers is designed for professional landscapers. The K-series consists of three mowers, all- which feature pressurized oil systems to provide optimum lubrication during long hours of mowing.

The mowers also have large drive tires with a newly-designed traction tread pattern.The tires' radial style improves tread-to-turf contact. Another feature of the K-series is the tan and brown coloring which is chemical and rust resistant.

The models in the K-series include Model 1822D, powered by a three-cylinder, liquid-cooled Kubota diesel engine; Model 1822, equipped with an 18 hp Kohler Magnum engine; and Model 2132 which has a 21 hp, three-cylinder, liquid-cooled Kubota gasoline engine.

Circle No. 219 on Reader Inquiry Card

Natural blankets protect seedbeds from erosion

North American Green's blankets protect seedbeds and allow them to establish for permanent erosion control in a variety of applications.

They reduce rainfall impact, reduce water runoff velocity and shield soil surfaces from wind. By moderating soil temperatures they reduce evaporation and help retain soil moisture.

Blankets come in 50-lb. rolls and are easy to install, secured by six-inch staples. Seedbed preparation and lime, fertilizer and seed applications must be

made prior to installing blankets.

Circle No. 220 on Reader Inquiry Card

Zero turning radius steers versatile lawn mower

The Country Clipper from Shivvers

The Advanced System for

Billy Goat's TR Truck Loader System is a complete lawn maintenance system that makes fall leaf cleanup easy. Call us today and find out how your lawn service crew can use these four pieces of equipment to clean up in record time.

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Use the backpack blower to remove debris from shrubs and hard-to-reach areas.

The suction sweeper is used for sweeping up leaves in outlying areas, away from the truck.

Inc. is a zero turning radius lawn mower. It offers two tractor sizes, three deck sizes and five engines for versatility. A full line of attachments is being developed to make the mower even more versatile.

Circle No. 221 on Reader Inquiry Card

Mulching attachment turns leaf debris into mulch

The Leaf Cracker from John Deere is a 1/8-inch steel, bolt-on mulching attachment designed to hold leaves longer in the mower deck cutting chamber to pulverize leaves into soil mulch.

The chopped leaves deteriorate more easily, providing a moisture-retaining mulch without causing thatch problems.

According to Dan McGinn, marketing manager at Deer's Horicon Works, the Leaf Cracker will save time because it eliminates the need to rake, bag or burn leaves.

The attachment takes about 45 minutes to install on 60- and 72-inch Deere side discharge mower decks, compact utility tractors and front mowers. It also attaches to Deere commercial walk-behind 36-, 48- and 52-inch mowers. The Leaf Cracker should be removed for regular mowing.

Circle No. 222 on Reader Inquiry Card

Four new mowers added to commercial mower line

Scag Power Equipment will introduce four additions to its commercial walker mower line at the Pro show in Dallas this month: the 32-inch and 36-

inch walkers equipped with two-cycle JLO engines, and a 52-inch and 61-inch walker.

Scag walkers, powered by Briggs & Stratton, Kawasaki or Kohler engines, come equipped with four-speed gear boxes and Scag's twin power belts which increase friction to pulley surfaces and prevent belt slippage in wet cutting conditions.

Circle No. 223 on Reader Inquiry Card

De-icing products provide year-round business

Equipment can be used year-round by applying de-icing products from Great Salt Lake Minerals & Chemicals with existing equipment. Quicksalt plus PCI and Freezgard plus PCI are less corrosive and more effective than common de-icers, the company says.

Quicksalt is a registered trademark of Great Salt Lake Minerals & Chemicals; Freezgard is a trademark of Great Salt Lake; and PCI is a registered trademark of Georgia Pacific.

Circle No. 224 on Reader Inquiry Card

Drainage fabric relieves hydrostatic water pressure

Enkadrain from the Fibers Division of BASF Corp. is a two-layer non-woven polyester fabric heat-bonded to Enkamat matting, an open three-dimensional nylon matting, for water drainage control.

Enkadrain reduces hydrostatic

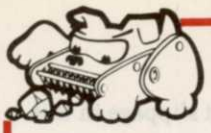
Lawn Maintenance

The TR Truck Loader System

Use the heavy duty wheeled blower to move large quantities of leaves toward the truck.

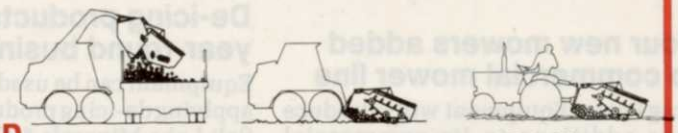
The intake hose vacuums leaves piled up around the truck and sends them through the four-bladed steel impeller in the truck loader. By crushing leaves and debris into small particles, the impeller greatly reduces bulk. This allows the truck to hold more debris and prevents operators from having to unload the truck as often.

Circle No. 102 on Reader Inquiry Card



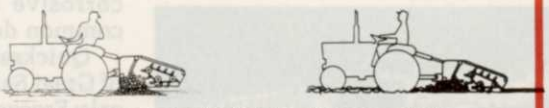
ROCKHOUND TEACHES THE ABC'S OF GROUND PREPARATION

A SERIES ROCKHOUND



Dumping — Skid Steer Mount (Hydraulic) — 3 Point Mount

B SERIES ROCKHOUND



Open bottom—Hydraulic Drive. Rocks are raked to a convenient windrow for later pickup.

COST EFFECTIVE ROCKHOUNDS Rake and collect rocks and surface debris, leaving the soil in a fluffy, level, seed-bed quality condition.

It does not cost to own a ***Rockhound . . . IT PAYS!***

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Circle No. 120 on Reader Inquiry Card

pressure, which fuels water seepage, in wet clay and silt soils surrounding underground basement and walls. It filters soil from water under hydrostatic pressure, providing an escape route for water and hydrostatic relief. All the soil contacting a wall is thoroughly drained without clogging.

Enkamat and Enkadrain have numerous applications for drainage and hydrostatic relief, replacing traditional drainage material such as gravel or stone, graded aggregates, sand blankets and corrugated sheeting.

Circle No. 225 on Reader Inquiry Card

New spray head has adjustable nozzle

Hunter Industries has introduced the Model PSO4A, an innovative spray head with a four-inch pop-up stroke and an integral, adjustable nozzle.

The arc of coverage on this Professional Series sprinkler is fully adjustable from 1 to 360 degrees. The discharge rate may also be adjusted independently.

The PSO4A's adjustable arc and discharge rates eliminate the need to inventory many separate nozzles generally needed by conventional spray heads.

Circle No. 226 on Reader Inquiry Card

ANNOUNCING . . . . NCTE '87

NORTH CENTRAL TURFGRASS EXPOSITION
December 8-10, 1987
Pheasant Run Resort — St. Charles, Illinois

It is our pleasure to extend this invitation to you and your associates to attend this year's North Central Turfgrass Exposition. NCTE is an educational conference and trade show combined in one location: a format designed to give turfgrass managers the chance to meet and share ideas and experiences while gaining knowledge from the most renowned turfgrass and ornamental experts in the United States; a trade show where you can meet with sales representatives displaying the latest products, equipment, and services.

WHY SHOULD YOU ATTEND THE 1987 NCTE?

NCTE is a once-a-year opportunity to participate in nine meetings in one, offering the greatest number of program topics for the least expense. The NCTE has grown each year and this year is jointly sponsored by the following organizations:

- *Illinois Turfgrass Foundation*
- *Central Illinois Golf Course Superintendents Association*
- *Chicago and Golf Course Mechanic's Association*
- *Midwest Association of Golf Course Superintend*
- *Sod Growers Association of Mid America*
- *Sports Turf Managers Association*
- *University of Illinois Cooperative Extension Service*
- *USGA Green Section*
- *Wisconsin Golf Course Superintendents Association*

This exciting line-up will assure quality and informative educational sessions for all in attendance! Programs will cover topics relating to golf, lawn, grounds, turf, landscape contractors, architects and equipment maintenance. Over 58 hours of education are offered making it possible for you to attend those sessions that most interest you.

NTCE '87 FEATURES WILL INCLUDE:

* *Keynote Address by Doug Collins, Head Coach of the Chicago Bulls and former NBA All-Star.*
* *Pesticide Applicators Training session and test.*
* *Another record-breaking, sold out-trade show with over 100 exhibitors in the ultra-modern "MegaCenter" exhibition hall.*

The Midwest's largest convention resort, Pheasant Run, located in St. Charles, Illinois will host all NCTE activities.

This is your best chance of the year to improve your skills, increase your knowledge, and prepare yourself for the future of your business and industry.

FOR FURTHER INFORMATION, REGISTRATION AND HOUSING CONTACT:

Illinois Turfgrass Foundation
435 North Michigan Avenue, Suite 1717, Chicago, Illinois 60611
(312) 644-0828

Circle No. 148 on Reader Inquiry Card

Start A Lasting Relationship

Ninety-six percent of the professionals, commercial users and homeowners we talked to told us they love the way their Gravelys perform. Our two-wheel tractors are popular favorites. They produce a smooth quality cut, provide a choice of rear or side discharge and bagging. And they give years of reliable performance. The relationship starts with a test. Try a two-wheel tractor today. GRAVELY®

Fall In Love With A Gravely

Gravely International, Inc., One Gravely Lane, P.O. Box 5000, Clemmons, NC 27012 • 919-766-4721 • TELEX: 6971451 ARGRA
GSA# 07F13713 • HUD# HC-17095

Circle No. 117 on Reader Inquiry Card

CLASSIFIEDS

RATES: $1.00 per word (minimum charge, $25). Bold face words or words in all capital letters charged at $1.25 per word. Boxed or display ads: $85 per column inch-1x (one inch minimum); $80-3x; $75-6x; $70-12x. Agency commissions will be given only when camera-ready art is provided by agency. For ads using blind box number, add $5 to total cost of ad. Send ad copy with payment to Dawn Nilsen, LANDSCAPE MANAGEMENT, 1 East First Street, Duluth, MN 55802 or call 218-723-9200.

BOX NUMBER REPLIES: Mail box number replies to: LANDSCAPE MANAGEMENT, Classified Ad Department, 1 East First St., Duluth, MN 55802. Please include box number in address.

BUSINESS OPPORTUNITIES

LEARN Professional Landscaping and Gardening at home. Accredited program provides thorough training in all phases of commercial and residential landscaping. Certificate awarded. Free booklet describes program and opportunities in detail. Lifetime Career Schools, Dept A-290, 2251 Barry Ave., Los Angeles, CA 90064. 12/87

LANDSCAPE COMPANY - Landscaping contractor specializing in schools, parks, playgrounds. Southern California. 1987 sales est. $4 million. Contact: Bob Clarke, P.O. Box 5022, Costa Mesa, CA 92626 (Agent). 11/87

Tree Service for sale - well established good clientele, $250K+ annual gross income (40% spraying - 60% tree work). Located prime North Shore Community "Goldcoast"-Western Suffolk L.I., N.Y. Price $60,000 plus any trucks and equipment. Terms available. Respond (516) 696-1021. 12/87

Sod farm - 40 miles N. of Detroit. 1-mile from new xway. Metro Detroit Market. Established in 1959. Owner retiring. 285 acre mostly tiled and river for irrigation. Some muck, older farm house & buildings, $1200.00 per acre, equipment optional. Owner would stay to help if necessary. Call evenings, 313-772-6893. 11/87

WANT TO BUY OR SELL a golf course? Exclusively golf course transactions and appraisals. Ask for our catalog. McKay Golf and Country Club Properties, 15485 N. East Street, Lansing, Michigan 48906. Phone (517) 484-7726. TF

Tired of working 12 hours a day for someone else's bottom line? Be your own boss! Earn your own profits! For as little as $6800 down you can join the LawnCare professionals at ServiceMaster. Call (312) 964-1300 ext. 2242 to receive information on how to get started. 12/87

PALM BEACH FLORIDA - Landscape Maintenance Company. All or part, commercial and residential. Established 1980. Fastest growing county in Florida. Year round income. Training Financing (305) 627-8141. 12/87

HELP WANTED

LANDSCAPE INSTALLATION SPECIALIST - Supervisor for well established landscape company. Must be able to read and carry out a set of landscape plans. Must be willing to work. Cranmer Grass Farms, Inc., 2501 N. Maize Road, Wichita, KS 67205. 1/88

LANDSCAPE DIRECTOR OF LANDSCAPE MANAGEMENT - NYC Dept. of Parks & Recreation offers supervisory position in horticultural operations and management of landscape projects. Involves the direction of flower bed creation, turf maintenance and improvement, erosion control, restoration of landscape and direct contact with the public. Requires B.A. in horticulture or landscape architecture; minimum four years experience in park, botanical garden or nursery management or closely related field, with at least 18 months in administrative or managerial capacity. Salary: Mid-$30s, depending on experience. NYC residency required within 3 months of employment. Director of Recruitment, NYC Dept. of Parks and Recreation, The Arsenal, Central Park, New York, NY 10021. 212-360-8210. Equal Opportunity Employer. 11/87

LANDSCAPE MAINTENANCE SALES: Top Quality Florida Maintenance contractor has an opening for a highly professional experienced salesperson. Strong horticultural background and maintenance experience a must. Must possess the ability to deal with large properties and sophisticated clients. Tremendous opportunity for self starting individual to expand with a growing firm. Call Mr. Singh (305)831-8101. 11/87

Landscape Salesperson position available with Yardmaster, Inc. in Cleveland, Ohio. Excellent compensation plan and benefits. Join Ohio's largest design/build and maintenance firm. Send resume or call **YARDMASTER, INC., 1447 N. RIDGE RD., PAINESVILLE, OH 44077, 216-357-8400.** 2/88

CAREER OPPORTUNITIES

ORKIN LAWN CARE (a division of Rollins, Inc.), is one of the nation's largest and fastest growing Lawn Care Companies. With over 43 branches located in 12 states our expansion plans for FY88 will require more proven management.

We are looking for Branch, District and Region Management talent, as well as, Sales and Service Management employees.

If you are ready to join an aggressive company with over 87 years of service business experience, one that is stable, growing and one where you can build a strong career with unlimited advancement opportunities then send your resume TODAY or call 404-888-2771.

Personnel Director
Orkin Lawn Care Division
P.O. Box 647
Atlanta, GA 30301

Landscape Architects/Supervisors (project foremen) to join a nationally acclaimed firm looking to expand into its second generation Long Island area supports a high budget landscape industry. Year round employment, company benefits and continuing education available. Experienced and aggressive people send resume to: **GOLDBERG & RODLER, INC.,** 216 East Main Street, Huntington, New York 11743. 11/87

WANTED—Experienced, hands on, working superintendent for growing irrigation construction firm in Mid-Atlantic state. Must have working knowledge of commercial and residential irrigation construction as well as supervisory and management skills. Ground floor opportunity for energetic, enthusiastic individual. Send Resume to: **DUNCAN IRRIGATION, INC., P.O. BOX 6842, CHARLOTTESVILLE, VA 22906.** 1/88

ESTIMATOR SALESPERSON: A diversified, growing, suburban Cleveland landscape firm has an opening for a landscape Estimator/Salesperson for commercial projects. Applicants must have experience in commercial landscape contracting and a college degree in a related field, ability to deal with landscape architects and general contractors needed. We are looking for a highly motivated individual with a proven record to help us grow. If you are qualified for this career opportunity, please send resume, work and salary history to Chagrin Valley Landscaping, P.O. Box 391002, Solon, OH 44139. 11/87

HELP WANTED: Commission sales rep to call on PCO distributors and Landscape Maintenance distributors in the Long Island, Metropolitan New York and New England areas. Established customers and national products. Rapidly expanding territory currently generates $35,000 commissions. Reply to Cedar Run Products, P.O. Box 754, Freehold, NJ 07728. 11/87

LANDSCAPE ARCHITECT/DESIGNER - Established Milwaukee, Wisconsin firm has excellent opportunity for a Landscape Architect or Designer who is a real team player with strong "intraprenurial" instincts to recruit, develop and manage aggressive, profit oriented design and sales team. Salary negotiable, send requirements and resume to LM Box 440. 11/87

HELP WANTED - FACULTY POSITION: Provide instruction in Horticulture Program area. Assist in program development, student recruitment and industry contacts. **Qualifications:** should include a Master's Degree in Horticulture with 3-5 years college teaching experience and 3-5 years direct industry experience in the Horticulture/Landscape Contracting area. **Salary:** commensurate with experience. **Application deadline:** December 1, 1987. **Starting Date:** January 1988. Send resume and Cover Letter to: Charles L. Fuller, Director of Personnel/Affirmative Action, Bush Hall, SUNY College of Technology at Delhi, Delhi, New York 13753. EEO/AA Employer, Minorities and Females are encouraged to apply. 11/87

ARBORISTS: Fast moving and well respected arboricultural firm in Southern California looking for bright, energetic, dedicated and responsible person. Self-starter to head new sales, personnel management, field operations, contract bidding and negotiations and full supervision for all manpower and equipment. Applicants must have horticultural background, college degree, direct practical experience, and computer knowledge preferred. Salary commensurate with background. Good company benefits with strong growth potential. Send resume with salary history (mandatory) in strictest confidence to LM Box 430. 1/88

Gazebo Dealers Wanted. Huge profits selling preassembled gazebo kits. Different sizes and styles available. High quality kits manufactured in Michigan. Shutt Construction Co., P.O. Box 397, Williamston, Michigan. Phone (517) 655-1915. 4/87

PROJECT MANAGER: Excellent opportunity for career and goal oriented individual to work with a commercial landscape firm in Atlanta, Georgia and Washington, DC. Must be experienced in all aspects of landscape construction and willing to assume total responsibility. Good salary, benefits and incentive program. Scapes, Inc. 404-956-7500. 11/87

IPM Technician - Excellent opportunity for knowledgeable, experienced professional. Must be familiar with trees, shrubs, insects, and diseases of the Northeast U.S. Ability to diagnose problems and treat with appropriate chemicals on site required. Additional training will be provided. Join a fast growing company with excellent pay and benefits. Send resume to Don Becker, Director ofju Operations, Sav-A-Tree of Westchester, Inc., P.O. Box 527, Armonk, NY 10504-0527. (914) 666-8202. Position available February 1988. 11/87

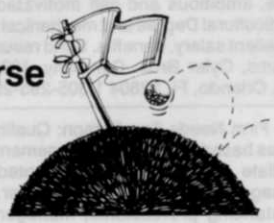
Arizona's best and fastest growing full service landscape firm has openings for qualified personnel. Opportunities in many departments. Send resume, department interest and salary needs to LM Box 435. 11/87

OTF Plan now to attend.

Dec. 7-10, 1987
The Ohio Center
Columbus, Ohio

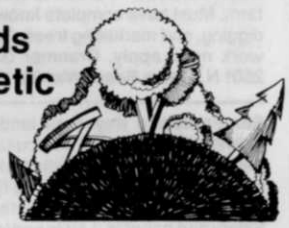
The Ohio Turfgrass Foundation Conference and Show features lectures, workshops and more than 350 exhibits for lawn care, golf course, landscape and grounds maintenance professionals.

Golf Course



- Understanding Poa to Bent Conversion with TGR
- Experiences with *Poa annua*— Its Management and Control from a Plant Pathologist's Viewpoint
- Management of Localized Dry Spots
- The Pros and Cons of Disease Detection Kits
- Putting Green Management
- Insecticides — Recent Developments
- Golf Course Computers — Utilization and Cost
- Personal Financial Planning
- Stress Management
- Wildflower and Native Grass Renovation
- Chemical and Biological Control Strategies for Aquatic Management
- Greens Reconstruction — Making It Right!
- Bentgrass Fairway Management— Are We Headed in the Right Direction?
- Thinking Superintendent — Time and Money-Saving Ideas
- Soil Management — Facts and Fallacies
- The Black Layer — Sifting Through the Maze
- Greens Reconstruction
- Bentgrass Breeding
- Overseeding Turfgrasses
- PGRs for *Poa annua* control

Grounds & Athletic Fields



- Ground Covers — Alternatives to Grasses in the Landscape
- Wildflower and Native Grass Renovation
- Aquatic Management Strategies for Small Ponds
- PGRs as a Tool for the Professional Grounds Manager
- Annual and Perennial Selection and Care
- Turf-Type Tall Fescues
- Insecticides — Recent Developments
- Stress Management on the Job
- Selecting the Proper Aeration Equipment
- Pre-emergent and Post-emergent Herbicides — Recent Developments
- Soil Management in the Landscape — Facts and Fallacies
- Low Budget Athletic Fields
- Player Safety/Field Quality
- The Agronomics of Athletic Field Management — A Reevaluation
- Soil Management of Athletic Fields
- Experience with Turfgrass Aeration Equipment
- A Morning with George Toma

Lawn Care

- Ecology of Patch Diseases
- The Pros and Cons of Disease Detection Kits
- Patch Disease Research Update
- Why Pre-emergent Herbicides Fail
- Why Post-emergent Broadleaf Herbicides Fail
- Drift and Pattern Displacement of Pesticides
- Core Cultivation Effects on Pre-emergent Herbicide Efficacy — Another Look
- Considerations and Selection of Core Cultivation Equipment
- Soil Improvement and Management — Physical or Chemical?
- Pre-emergent and Post-emergent Herbicides for the Lawn Care Professional
- The Pros and Cons of Turf-Type Tall Fescues
- Reducing Pesticide Usage Through Agronomic Practices
- Experiences with PGRs in the Landscape
- Insecticides — Recent Developments
- Alternatives to Pesticides
- Maximizing Job Satisfaction

Workshops

- Insurance Liability — Insuring the Landscaping and Lawn Care Risk
- Guidelines for Estimating Maintenance and Landscape Work
- Annual and Perennial Flowers
- Understanding and Interpreting Water Quality Related to Irrigation
- Pesticide Safety and Use

Ohio Turfgrass Foundation

Anyone involved in turfgrass or ornamental management is invited to attend the Ohio Turfgrass Foundation Conference and Show. For complete information and a conference program, contact:

Dr. John Street
c/o Ohio Turfgrass Foundation
2021 Coffey Road
Columbus, OH 43210
(614) 292-2601

Circle No. 127 on Reader Inquiry Card

HELP WANTED

LANDSCAPE HORTICULTURAL POSITION

We have an immediate position available for a landscape working foreman with knowledge and experience in leading and working with a crew. Job responsibilities include installation, replacement of trees, plant material, sod, etc. Other duties include pruning trees and shrubs, plowing snow, and general landscaping work. Knowledge of landscape construction helpful. We are located in Dearborn, MI and have over 40 commercial sites in the Ford Motor land development corporation development. This is a year-round position with excellent health benefits, paid holidays, and paid vacation. We also have excellent equipment and working conditions - the best in the industry! For more information please call Bob or Terry 313-337-2591. If no one is available please leave message and we'll get back to you as soon as possible!!

GIBBS LANDSCAPE COMPANY - Landscape and grounds maintenance. High caliber people needed to assist award winning company doing quality work in Atlanta area. Must have good driving record, and transportation. Offer good pay, and benefits. If you are dependable and industrious, send resume: Attn: Mike Sherman, 4111 Burge Road, Smyrna, GA 30080. (404) 432-7761. 11/87

Lawn Care and Lawn Maintenance Assistant Manager: Leading Horticultural Company since 1929 is seeking qualified applicant who is highly motivated, management oriented and strong in customer sales and service. Excellent growth opportunity and benefits. Salary commensurates with experience and performance. Send resume to: McNaughton's Nurseries, Inc., 351 Kresson Road, Cherry Hill, NJ 08034. 11/87

LANDSCAPE MAINTENANCE FOREMAN—THORNAPPLE LANDSCAPE MAINTENANCE, INC., a fast-growing firm serving commercial accounts throughout the Chicago Metropolitan area, has a career opening for an individual in the landscape maintenance field. Applicants are required to have two to five years "hands on" experience, knowledge of machinery use and maintenance, and technical expertise and knowledge of pests and diseases. A degree in Ornamental Horticulture is desired. **THORNAPPLE** is a well-regarded, quality-oriented firm which will give the right person a challenging career opportunity. All inquiries will be completely confidential. Send resume, work history and salary requirements to **THORNAPPLE LANDSCAPE MAINTENANCE, INC.,** Attn: Mr. Peter Grathoff, P.O. Box 626, Geneva, IL 60134. 11/87

MANAGEMENT: Ever-Green Lawns Corporation, a division of the multi-national Hawley Group, Ltd. is looking for experienced lawn and tree care professionals. Please respond in writing only to Richard D. Niemann, Corporate Recruiter, Ever-Green Lawns Corp., 1390 Charlestown Industrial Drive, St. Charles, MO 63303. TF

HELP WANTED: Landscape, turf and spray foremen, nurserymen and pruners. Experience and/or education necessary to work for our dynamic, quality oriented, large, 40 year established company in the Hamptons on Long Island. Professional wages and benefits, year round, full time positions. Contact: Whitmore-Worsley Inc., P.O. Box 10, Amagansett, NY 11930. (516)267-3756. 12/87

I.P.M. SALES & SERVICE: A knowledgeable person interested in continuing a small but successful I.P.M. Program. The potential is unlimited for the right person. Please send complete resume listing experience and education in greens industry to Antietam Tree & Turf, 405 N. Burhans Blvd., Hagerstown, MD 21740, Attn: J.R. Finn 301-791-3500. All replies strictly confidential. 11/87

HELP WANTED - Person to work on growing tree farm. Must have complete knowledge of growing, digging, and marketing trees. Only those willing to work need apply. Cranmer Grass Farms, Inc., 2501 N. Maize Road, Wichita, KS 67205. 1/88

San Francisco Bay Area landscape firm seeks individual with strong horticultural, irrigation, supervisory, and client relation skills for landscape management Supervisor position. Learning and growth opportunities with established company. Salary and benefits. Letter and/or resume to Landscape Care Company, 4026 Pacheco Blvd., Martinez, CA 94553. 12/87

Seeking manager to develop and expand our maintenance department, demonstrable experience in the areas of maintenance sales and production required. Expect first year sales of $300,000, and be willing to base salary upon sales and production. Seeking individual who is willing to believe in himself, perform, and be paid handsomely for his initiative. AYS Landscape Company, 31 W. 545 Diehl Road, Naperville, IL 60540, (312)983-0094. 12/87

Experienced Landscape Forman

Must be experienced in all phases of landscape installation and be able to handle a landscape construction crew.

Please send resume to:

Mr. R. Scofield
Environmental Industries
Department 200
24121 Ventura Boulevard
Calabasas, CA 91802

an equal opportunity employer by choice

LANDSCAPE MAINTENANCE SUPERVISOR: Scapes, Inc., a commercial landscape firm in Atlanta, Georgia, is seeking an individual who has strong management skills, as well as, extensive landscaping experience and knowledge of plants. Advancement potential — up to Division Manager — makes this position ideal for a goal oriented individual. 404-956-7500. TF

LANDSCAPE DESIGNER SALESMAN—Established residential and smaller commercial design/build landscape construction firm, serving southeast Wisconsin and Northern Illinois. Excellent opportunity for aggressive, motivated individual to handle design, sales and some installation supervision. Prior experience preferred. Send resume and salary requirements to The Pines, Inc., 5309 75th St., Kenosha, WI 53142, Attention Leo J. Schuch. 11/87

LANDSCAPE DESIGNER AND ESTIMATOR. Design/build landscape construction firm is seeking an experienced designer and estimator. Must be able to handle the job from sales to completion of job. Must have good graphic ability. Salary and benefits commensurate with ability and experience. Send resume to: P.O. Box 725, Utica, MI 48087. 11/87

CAREER OPPORTUNITIES: ChemLawn is now accepting applications for the positions of Lawn Specialist in our expanding Florida Markets. Join the Nation's Leader in Lawn Care. Send resume to LM Box 422. TF

Landscape Maintenance Crew Foreman - Commercial & Residential Contractor seeks knowledgeable and hard working experienced crew leaders. Excellent career opportunity for responsible, ambitious and self motivated individuals. Horticultural Degree and mechanical ability a plus. Excellent salary, benefits. Send resume to Sharon Adams, Oyler Bros. Company, 1930 Silver Star Rd., Orlando, FL 32804 1-305-295-2921. 11/87

Top Firm Needs Top Person: Quality conscious, Texas based landscape management firm has immediate opening for detail oriented Operations Manager and/or Business Manager. If you have outstanding professional, managerial and horticultural skills and are not afraid of hard and healthy teamwork, then you could qualify for a top position with the finest landscape firm in the southwest. Outstanding compensation and opportunity. Reply today to LM Box 434. 11/87

HELP WANTED - PESTICIDE APPLICATOR: Position for trained, educated and experienced Turf and Ornamental Applicator to work with a grounds care corporation. The general scope of the work will include diagnosis and control of insects and disease on bluegrass and ornamental shrubs. We offer excellent benefits and the opportunity to work with imminent professionals. Send resume and salary history. **CARMINE LABRIOLA, INC.,** Providing Horticultural Services to Corporate Landscapes. **200 JOHNSON ROAD, SCARSDALE, NEW YORK 10583.** 11/87

TREE CARE SALESPERSON - B.S. degree preferred in Urban forestry, horticulture or related field. Knowledgeable in pruning and fertilization of trees, disease and insect control. 1-2 years experience necessary. Benefits include Medical Plan, Profit-sharing, and paid vacation. Relocation reimbursed after 6 months employment. Send resume with pay history to Ira Wickes - Arborists, 11 McNamara Road, Spring Valley, NY 10977, 914-354-3400. 12/87

Wanted - Manufacturers rep with successful sales force to sell turf spraying line. 38 years old Midwestern manufacturer of agricultural sprayers is expanding to turf industry and needs manufacturers rep for sales support. Opportunity for the right firm to have input into product line. Send organizational information to: Jim Weaver, V.P. Sales, Kuker Industries, Inc. Box 37589, Omaha, NE 68137. 11/87

HELP WANTED

Assistant Managers & Foremen

Excellent growth opportunity with Connecticut's largest landscaping firm. Complete Interior and Exterior Construction and Maintenance Departments. Candidates should have an "A.S." or "B.S." in Horticulture or equivalent in experience also two years experience supervising and motivating people. Excellent company benefits. Salary commensurate with experience. Send resume with education, experience, and salary history in confidence to:

Milford

MILFORD LANDSCAPING & MAINTENANCE, INC.
P.O. BOX 2-186
MILFORD, CT 06460
203-878-8748

When good shots end up in bad lies on dollar spotted fairways, it can spot your course's reputation.

That's good reason to put Rubigan® in play. Dollar for dollar, nothing controls dollar spot better.

Just one Rubigan application controls even resistant strains of dollar spot for up to 28 days. And one case of Rubigan will treat up to 8 acres of greens and fairways.

Rubigan is the only fungicide labeled to treat and prevent all these other turf spoilers, too: Fusarium leaf spot, necrotic ring spot, summer patch, take-all patch and spring dead spot—plus large brown patch with a Daconil 2787® tank mix.

Keep your fairways, tees and greens dollar spotless—looking clean and beautiful all season long. Get Rubigan from your Elanco distributor. Or call toll-free: **1-800-352-6776.**

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Daconil 2787® — (chlorothalonil, SDS Biotech)

Circle No. 109 on Reader Inquiry Card

From sweet spot

...to dollar spot (!?/.%!)

SCRUSHER

Scrapes 'em and brushes 'em . . . the new better way to clean spikes and shoes.

The Scrusher is a must around heavy traffic areas like the clubhouse, locker room entrance, or pro shop. It keeps dirt in its place — outside!

The Scrusher is a heavy duty brush that cleans spikes and sides of the shoe at the same time. The lower brush has three rows of stiff nylon bristles to thoroughly clean spikes. Spaces between the rows of brushes allow grass and dirt to fall through and help keep brushes free from clogging. Side brushes are softer nylon bristle that won't scratch shoes. All brushes are replaceable. Can be mounted on turf or concrete. Posts, chain and mounting spikes optional.

STANDARD GOLF Pro-Line

Standard Golf Company
Box 68
Cedar Falls, Iowa 50613
(319) 266-2638

See Your Local Standard Golf Distributor

SG-148

Circle No. 136 on Reader Inquiry Card

Site Superintendent

Must have 5 years experience in major commercial landscape construction projects and a thorough knowledge of building construction.

Send resume to:

Mr. R. Scofield
Environmental Industries
Department 200
24121 Ventura Boulevard
Calabasas, CA 91802

an equal opportunity employer by choice

Landscape maintenance sales position available in So. California. Sales experience preferred. Send resume/work history to Adco Service Co., 933 So. Greenwood Ave., Suite H, Montebello, CA 90640. 11/87

LANDSCAPE MAINTENANCE SUPERVISOR: Expanding landscape management firm seeking individual with supervisory ability and a minimum of two years experience in maintenance and/or installation. An agricultural related background or degree would be beneficial. Send resume with salary requirements to: Maintain Inc., 16008 Boss Gaston, Richmond, TX 77469, Attn: Branch Manager. 11/87

SALES MANAGER/SALES REPRESENTATIVE: Outstanding opportunity to join and grow with Westchester's fastest growing Tree Care Company. All benefits. Send resume to Ms. Michele Gerards. Sav-A-Tree of Westchester, Inc., P.O. Box 527, Armonk, NY 10504-0527. 11/87

LANDSCAPE MAINTENANCE AND CONSTRUCTION FOREMEN: Suburban Cleveland firm is seeking experienced individuals who can work together with other people. Must be hard working, organized and capable of directing a project from beginning to end. Salary commensurate with experience. Send resume to: P.O. Box 391002, Solon, OH 44139. 11/87

FOR SALE

HANNAY REELS: New in the box, E1526s and E1530s, $339.00. Lawn spray hose 275 psi and 600 psi, all sizes. Original Imler measuring wheels, $48.00. Glycerin filled gauges 0-60 psi, 2-02100 psi, $19.95. Polypropylene ball valves ½" to 2" Chemlawn guns $75.95. Lawn spray boots $16.95. Lawn spray gloves $1.25/pr. Call **Hercsh's Chemical Inc., 1-800-843-LAWN** outside of Michigan or 1-313-543-2200. TF

Finn Hydroseeders, Mulch Spreaders, Krimpers, Pit Burners, Fiber Mulch & Tackifiers. New & Used. Wolbert & Master, Inc., P.O. Box 292, White Marsh, MD 21162, 301-335-9300. 12/87

FOR SALE—60" Vermeer Truck Mounted Spade. 1984 Spade — 1972 Chev. 2 Ton, New Motor. Call (606) 233-1254. 11/87

FOR SALE NEW-Stumpster Tree Grinder (3p.h.-PTO) Reg. Price $3,950.00 Will Sell For $3,200.00. Call (606) 233-1254. 11/87

HYDRO-MULCHERS AND STRAW BLOWERS New and used. **JAMES LINCOLN CORPORATION,** 3220 S. Jupiter Rd., Garland, TX 75041. (214) 840-2440 (TX), (800) 527-2304 (except TX). TF

ZOYSIA MEYERS Z-52 SOD OR SPRIGS. EXCELLENT QUALITY DELIVERED ANYWHERE AT REASONABLE PRICES. ALSO ROW PLANTING AVAILABLE. DOUBLE SPRINGS GRASS FARM, SEARCY, AR. (501) 729-5691. TF

LAWN SEED. Wholesale. Full line of top quality grasses. Improved bluegrass varieties, fine fescues and fine bladed ryegrasses. We specialize in custom mixing. Oliger Seed Company, 89 Hanna Parkway, Akron, OH 44319. Call collect (216) 724-1266. TF

1985 Toro Park Master - 7 gang, 5 blade reels. Excellent condition. 413-568-1636. 11/87

SELECTIVE CONTROL
Of Weeds, Brush And Weed Trees!

PHILLIPS APPLICATOR

Spot treatment cuts labor, materials. Automatic — Adjustable — Accurate.

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P.O. Box 16073, Minneapolis, MN 55416
(612) 926-9711 • Telex 272636

SPRAYERS: New Skid-mounted 300 Gallon Fiberglass Tanks. Electric Reel with 300' hose and gun. Unused - List $3,470.00. Will take Best Offers. (216) 656-4200. 11/87

STAINLESS STEEL TANK BODY - 1200 gallon (4 pot), 4 reels, 2 - 12 hp Kohler pony engines, 1 - 9200 Hypro, 1 - D-10 Hydro Cell with dry storage ready to mount on your truck. As is $8,500 or offer. Call Jim Doll (301) 840-5500. 11/87

Seeder 5'-6 3-PT fert. & seed boxes with grader blade. G.C. $1200.00. Call evenings, 313-772-6893. 11/87

STAINLESS STEEL TANK BODIES available. 4 pots each, 800 gallon and 1,000 gallon with dry storage to mount on your chassis. $2,000-$3,000 or offer. Call Jim Doll (301) 840-5500. 11/87

BROUWER SOD HARVESTER - 1974 - 18" Rolling unit with steel mat & cross conveyor on Ford 3000 diesel - 4758 hours - $13,500.00. Shore Tractor, New Jersey - 201-462-8822. 11/87

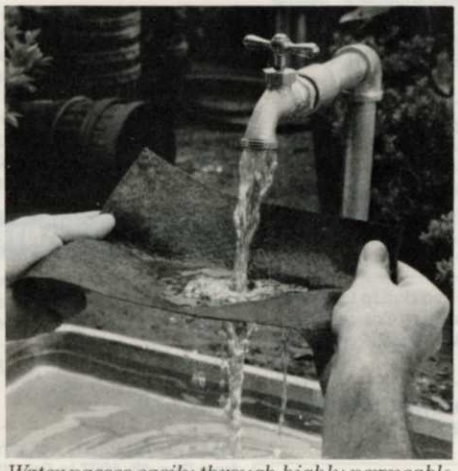
2 USED BROUWER HITCHHIKER FORKLIFTS—model 3500—excellent condition! Shore Tractor Company, New Jersey - 201-462-8822. 11/87

BROUWER SOD HARVESTER - 1981 - 18" Rolling unit with steel mat & cross conveyor on Ford 3600 diesel - 1887 hours - $20,500 - Mint - Shore Tractor. New Jersey - 201-462-8822. 11/87

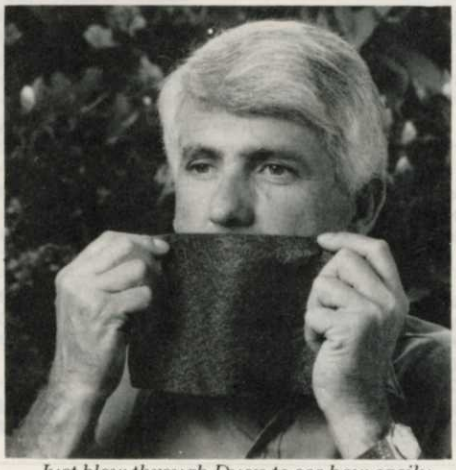
REINCO HYDROGRASSERS and power mulchers in stock. Opdyke Inc. (Philadelphia Area) 215-721-4444. TF

TREE SPADE AND TRUCK for sale. Hobby operator equipment, practically brand new. 70" spade; 9,000 mi. on truck, GMC Tilt Master. $45,000.00 complete setup. Contact Jack Farmer, Box 254, Star Rt. 1, Cave Creek, AZ 85331 (602) 488-1733. 11/87

THIS TEST WON'T HOLD WATER —OR AIR.



Water passes easily through highly permeable Duon Weed Control Mat.



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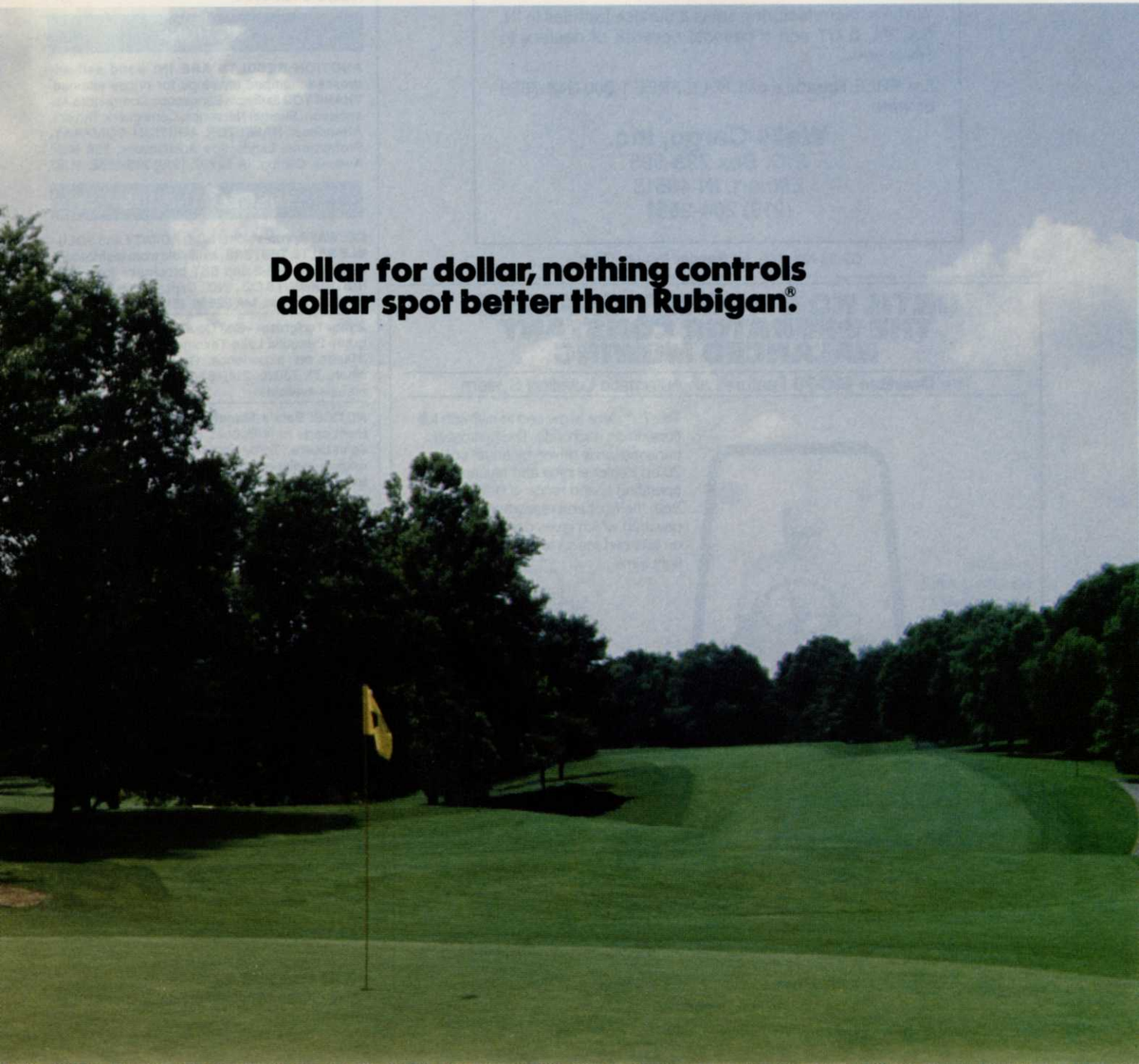

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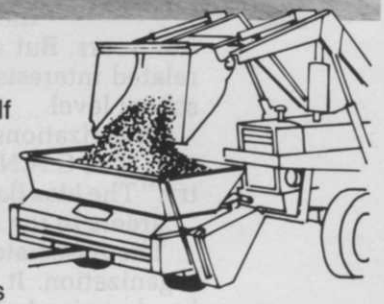

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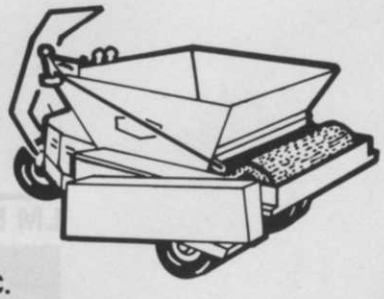

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TURFCO

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Where are the people?

Our colleges and universities have a problem: they are not turning out enough graduates in horticultural-related subjects to keep the green industry satiated.

And they admit it.

"Perhaps we college and university teachers, researchers and extension faculty haven't continued to do a good job of recruiting or of promoting the profession," Paul Smeal of VPI-SU writes us.

Adds Mike Fulton of Agricultural Technical Institute, Wooster, Ohio: "The biggest demand we get from industry is for people to go to landscapes, diagnose a problem and take steps to correct it. Most of the students who learn our horticultural program aren't that ready."

Fulton notes that most horticulture students are more interested in golf course management and not landscaping, per se. Those who indicate a definite interest in landscaping "are directed toward landscape design and not maintenance."

Smeal points out that income potentials are not as attractive in the green industry as in other industries like engineering, business and computer technology. "Last year we graduated 42 students and 10 reported starting salaries in the $12,000 range. Starting salaries for horticulture graduates should be $18,000 to $20,000, especially for those who have work experience."

As Smeal says, perhaps our educators are partially to blame for the lack of qualified horticulture students to graduate in the last few years. But so is the green industry. Owners and managers of landscape-related interests *must* realize that they *must* help recruit students at the high school level.

Organizations like California Association of Nurserymen have taken the first step. The C.A.N. publishes a free booklet called "Careers in a Growing Industry." The Idea Bank of Tempe, Ariz., offers a 20-minute videotape for $79 entitled "Careers in the Landscape-Horticulture Industry."

The Associated Landscape Contractors of America has done as much as any organization. It has published a pamphlet, "Growing Careers for Youth: the Landscaping Industry;" it sponsors an annual collegiate Field Day; and its Curriculum Committee has just written 2- and 4-year guides for schools with landscape contracting programs.

"Our members are desperate for quality people, especially in growth areas like Washington, D.C.," says ALCA's Debra Dennis.

The desperation could well continue into the 1990s, unless the green industry wakes up to this need.

Jerry Roche

by Jerry Roche, editor

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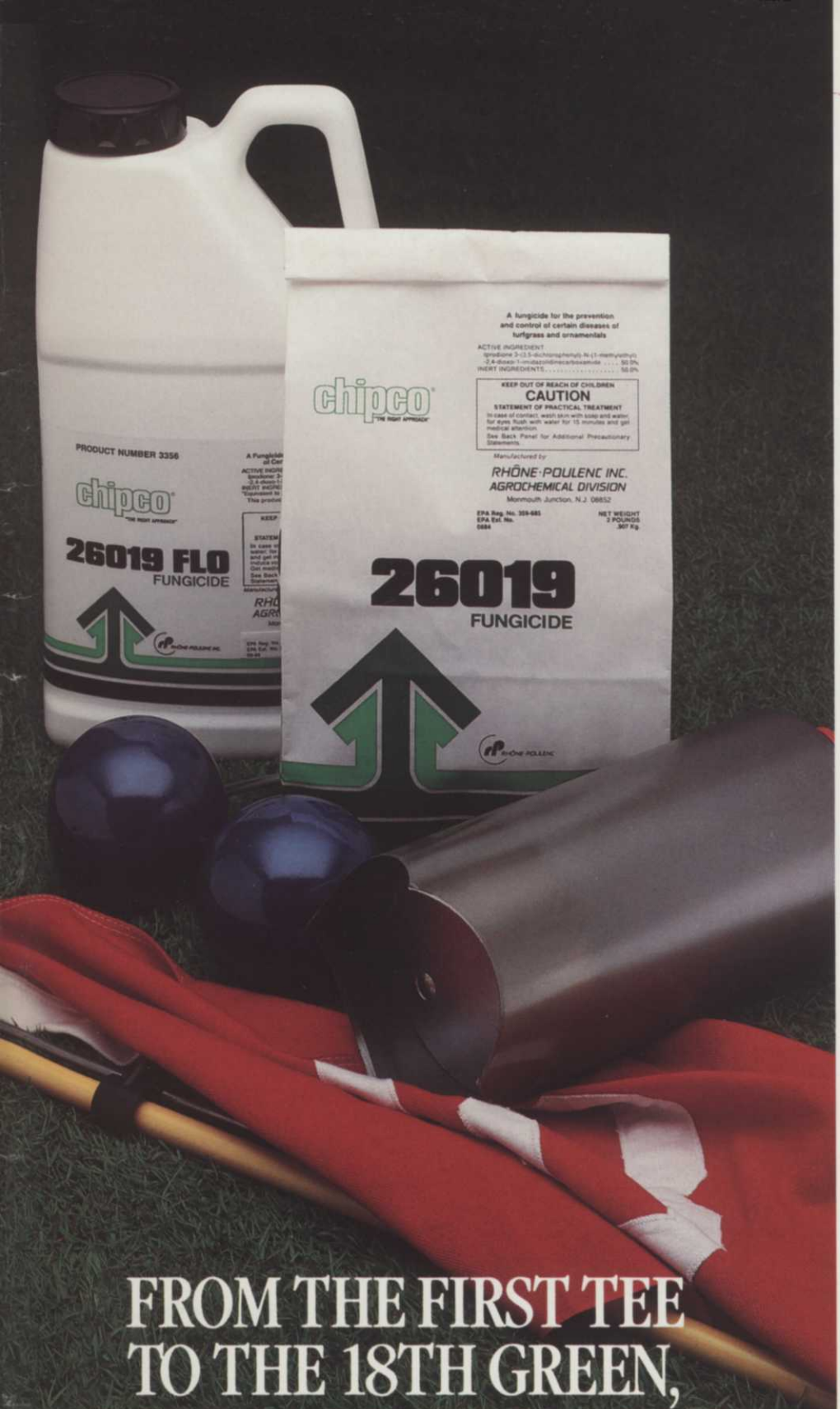

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